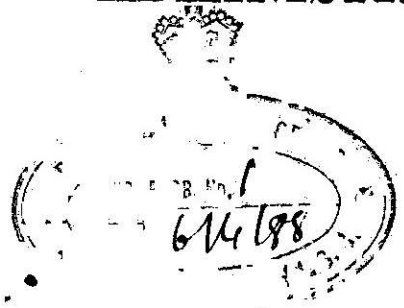
ADMINISTRATION REPORTS



OF THE

FOREST DEPARTMENT

IN THE

BOMBAY PRESIDENCY,

INCLUDING

SIND,

FOR THE YEAR 1886-87.

Bombay:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1888.

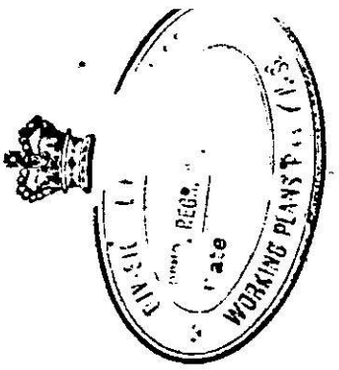
DIVISIONAL FOREST OFFICE
REGR. No.
Date
WORKING PLANS PARTY I. S. C.

Surveyed in 1885-86
" " " 86-87
No Forest

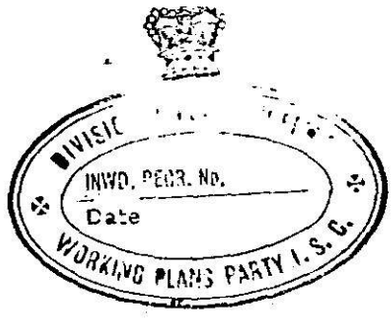
To Belgaum

Tivoli
Sávargali
Manikvádi
Sangargáli
Naikol
Kumratvádi
Gunji
Bhálka B
Karanjol
Bijgarni
Padalvadi
Simpevadi
Dongargaon
Ambevadi
Bibegali
Bhálka K
Halsál
Hemádga
Jatga
Angadi
Kiravala
Kámatgi
Digegali
Malvád
Halgà
Kirmáshi
Gashtoli
Surápur
Kukenhati
Ramapur
Sonenhati
Bhuranki
Ghosa B
Kapoli
Ranjankodi
Kakeri
Varkhad Pátya
Vátra
Ghosa K
Potoli
Bhátvádi
Merda
Maskanhati
Karikati
Ghotgali
Karajgi
Sendoli B
Sendoli K
Ibrampur
From Mormugão
Machali
Jambegáli
Mudagnur
Chinchvad
Ninganmát
Moisat
Sátnáli
Sivthan
Kalkop
Bastvád
Londa
Devrai
Auratbail
Kodgai
Jangamanhati
Manjarpai
Somset
Sulegáli
Gundoli
Mundvád Pimpla
Tárvád
Bámankop
Posekop
Amblikop
Akráli
Chinchevadi
Bálgund
Godoli
Sitavada
Suvátvadi
Manjarpai
Godgeri
Pur
To Dhárwár
Gharli
Kumbárda Bastvád
Ádáli
Nágargáli
Távarkati
Bhishtenhati
Kirpoli

Govt Photozinco Office, Poona, 1868.
B 691



NORTHERN CIRCLE.



No. 3972 of 1887-88.

From

A. T. SHUTTLEWORTH, Esquire,
Conservator of Forests, N. C.;

To

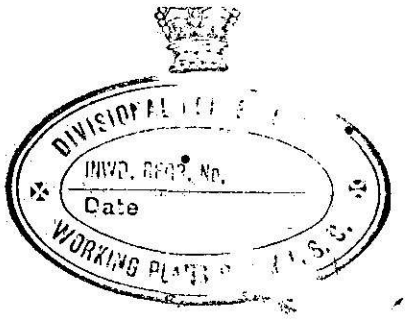
T. D. MACKENZIE, Esquire,
Chief Secretary to Government,
Revenue Department,
Bombay.

Poona, 25th October 1887.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Northern Circle for the year 1886-87, with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,
A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.



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FOREST ADMINISTRATION REPORT

OF THE

NORTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1886-87.

INTRODUCTION.

1. The selection of lands for forest reservation, and the enquiry into, determination, and settlement of notified forest lands, in the matter of rights affecting them, has been continued during the year by Forest Demarcation and Settlement Officers specially employed for these purposes; 11 such special officers have been on deputation in the several divisions of the Northern Circle during the year; and in some cases these works have been carried out by local revenue officers in addition to their own revenue and other duties. The changes which have affected the forest areas exhibit the following results :—

	Reserved Forest.	Protected Forest.	Total.
	Sq.m. a.	Sq.m. a.	Sq.m. a.
At commencement of the year	7,016 367	1,013 102	8,029 469
At close of the year	7,231 104	1,080 301	8,311 405
Increase ...	214 377	67 199	281 576

2. The settlement of the greater portion of the reserves, which were provisionally notified before the commencement of the year, has been completed.

3. A very considerable length of forest boundaries has been defined upon the ground in the several divisions; 18,383 special forest boundary-marks having been constructed during the year at a cost of Rs. 6,713-10-0.

4. The Working-Plans Division has done much work in the Thána Collectorate, determining and defining the boundaries of the sanctioned "Reserved Forests," differentiating all the forest reservations, and locating and marking out upon the ground the several coupes for the year 1887-88, and estimating their contents and value.

5. The survey of the forests of the Thána Collectorate on the scale of 8 inches to the mile was commenced by a Topographical Survey Party belonging to the Government of India's Survey, and $52\frac{4}{5}$ square miles were surveyed during the season.

6. There has been no change in the composition of the divisions comprising the Northern Circle; a few villages with some forest have been transferred from the Ahmednagar to the Poona Division.

7. The names of superior forest officers, who have been conducting the administration of the forests during the year of this report, with the stations they occupied, are given below.

NORTHERN CIRCLE.

Mr. A. T. Shuttleworth, Conservator of Forests, 1st Grade, throughout the year.

No.	Forest Divisions.	Name of Officer.	Rank.	Designation.	From	To	Remarks.
1	North Thána ...	Mr. A. D. Wilkins ...	Deputy Conservator, 4th Grade ...	Divisional Forest Officer ...	1st April 1886 ..	31st March 1887.	
		,, G. F R. Blackwell ...	Sub-Assistant Conservator, 3rd Grade.	Assistant do. ...	Do. ...	Do	
		,, L. B. Oke	Acting do. do. ...	Do. do. ...	Do. ...	28th June 1886.	
		,, N. B. Oke	Sub-Assistant Conservator, 1st Grade.	Do. do. ...	29th June 1886 ...	31st March 1887.	
2	South Thána ...	Mr. S. Hornidge	Assistant Conservator, 1st Grade ...	Divisional Forest Officer ...	1st April 1886 ...	Do.	
		,, R. H. Madan... ...	Acting do. 3rd Grade ...	Assistant do.	Do. ...	31st August 1886.	
		,, G. K. Shahane ...	Sub-Assistant do. 2nd Grade ...		6th November 1886 ...	31st March 1887.	
3	East Khándesh ...	Mr. C. Greatheed... ...	Deputy Conservator, 4th Grade ...	Do. do. ...	1st April 1886 ...	Do.	
4	West Khándesh ...	Mr. H. Mainwaring ...	Do. 3rd Grade ...	Divisional Forest Officer ...	Do. ...	Do.	
		,, W. G. Clabby ...	Acting Assistant Conservator, 3rd Grade.	Do. ...	Do. ...	23rd May 1886.	
		,, G. L. Gibson ...	Deputy Conservator, 2nd Grade ...	Do. ...	24th May 1886 ...	30th March 1887.	
		,, L. D. Joshi	Sub-Assistant Conservator, 2nd Grade	Assistant do. ...	31st March 1887 ...	31st March 1887.	
5	Násik	Mr. W. G. Betham ...	Deputy Conservator, 3rd Grade ...	Divisional Forest Officer ...	1st April 1886 ...	Do.	
		,, R. H. Madan... ...	Acting Assistant Conservator, 3rd Grade.	Do. ...	Do. ...	4th October 1886.	
		,, W. G. Betham ...	Deputy Conservator, 3rd Grade ...	Do. ...	5th October 1886 ...	5th November 1886.	
		,, L. B. Oke	Acting Sub-Assistant Conservator, 3rd Grade.	Assistant do. ...	6th November 1886 ...	31st March 1887.	
		,, W. A. Wallinger ...	Sub do. do.	Do. do. ...	29th June 1886 ...	16th November 1886.	
6	Ahmednagar ...	Mr. R. S. F. Fagan ...	Deputy Conservator, 4th Grade ...	Divisional Forest Officer ...	17th November 1886 .	31st March 1887.	
		,, H. Mainwaring ...	Do. 3rd Grade ...	Do. ...	1st April 1886 ...	23rd May 1886.	
7	Poona	Mr. R. C. Wroughton ...	Do. 2nd Grade ...	Do. ...	24th May 1886 ...	31st March 1887.	
		,, W. R. Gaunde ...	Sub-Assistant Conservator, 3rd Grade.	Assistant do. ...	1st April 1886 ...	Do.	
8	Satára	Mr. G. K. Betham ...	Deputy Conservator, 3rd Grade ...	Divisional Forest Officer...	Do. ...	Do.	
		,, G. S. Hinge	Acting Sub-Assistant Conservator, 3rd Grade.	Assistant do. ...	Do. ...	Do.	
		,, G. R. Mahajan ...	Sub-Assistant Conservator, 2nd Grade.	Do. do. ...	Do. ...	30th June 1886.	
9	Sholápur	Mr. G. P. Millet	Assistant Conservator, 1st Grade ...	Divisional Forest Officer...	1st July 1886 ...	9th March 1887.	
10	Surat	Mr. F. Gleadow	Deputy Conservator, 4th Grade ...		1st April 1886 ...	31st March 1887.	
11	Panch Mahals ...	Mr. H. W. Keys	Assistant Conservator, 1st Grade ...	Do. ...	Do. ...	Do.	
		,, R. H. Madan... ...	Acting Assistant Conservator, 3rd Grade.	Do. ...	Do. ...	1st September 1886.	
		,, H. W. Keys	Assistant Conservator, 1st Grade ...	Do. ...	2nd September 1886...	3rd October 1886.	
12	Working Plans ...	Mr. T. B. Fry	Deputy Conservator, 3rd Grade ...	Do. ...	4th October 1886 ...	31st March 1887.	
				Do. ...	1st April 1886 ...	Do.	

8. The subordinate protective and office establishments have continued of the same numerical strength as they were at the close of last year. There were then 57 cases of forest offences to be tried and disposed of; 839 new cases appeared upon the registers during the year; 811 cases affecting 1,928 individuals were tried; convictions obtained in 533 cases concerning 1,250 individuals; and acquittals in 278 cases affecting 678 individuals; and 85 cases remained over at the end of the year.

9. 154 cases of forest offences committed in "Protected Forests" and in proposed "Reserved Forests," provisionally notified under Section 4 of the Forest Act, were disposed of by Assistant Collectors, under Section 43 of the Land Revenue Code, in the Thána Division. Divisional Forest Officers have exercised with freedom and judgment their powers of compounding offences under Section 67 of the Forest Act, and 4,305 cases of compounding have occurred.

10. Fire-conservancy maintained by the vigilance of forest guards and the good-will and co-operation of the population of forest villages has been successful, although the area traversed by fire is larger in some divisions this year than last. In the Thána divisions the improvement in this respect is marked.

11. The financial results of the year have not been so satisfactory as could be wished. The revenue has declined from Rs. 10,37,296 of the previous year to Rs. 9,13,100.

CHAPTER I.

AREA AND BOUNDARIES.

1.—AREA AND BOUNDARIES.

12. The selection of forest land or waste land, the property of Government or over which the Government has proprietary rights, or to the whole or any part of the forest produce of which Government is entitled, in order that such lands might be constituted either "Reserved Forests" or "Protected Forests" according to their circumstances and surrounding conditions, has been continued during the year by a number of special officers, designated "Demarcation and Settlement Officers", appointed by Government for this duty. The changes which have affected the forest areas appear in the following table:—

No.	Division.	Area on 1st April 1886.				Added during the year.				Disforested or excluded by Rectification of Areas.				Area on the 31st March 1887.			
		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	North Thána	263	331	300	621	21	209	..	..	..	4	2	252	284	536	298	369
2	South Thána	282	1	353	80	43	665	..	..	..	171	..	30	325	395	353	50
3	East Khándesh	668	76	153	514	..	..	..	..	..	..	49	207	668	76	104	307
4	West Khándesh	1,216	493	194	617	..	348	..	..	1	108	..	..	1,216	93	194	617
5	Násik	1,083	195	..	..	29	24	..	..	1	310	..	..	1,110	549	..	..
6	Ahmednagar	805	88	10	173	54	299	1	58	23	134	..	117	836	253	11	114
7	Poona	711	19	..	..	14	94	..	..	3	92	..	..	722	21	..	..
8	Sátára	641	316	..	17	19	484	..	..	1	400	..	..	659	400	..	17
9	Sholápur	167	306	..	..	66	301	..	..	1	20	..	..	232	587	..	..
10	Surat	969	124	..	..	..	..	..	..	..	..	..	..	969	124	..	..
11	Panch Mahals	208	338	..	..	1	261	118	107	4	329	..	..	295	270	118	107
	Total ..	7,016	367	1,013	102	251	25	119	165	36	288	51	606	7,231	104	1,080	301

13. Of the area reduced during the course of the year from "Reserved Forests" which at the commencement amounted to 7,016 squares miles 367 acres, 17 square miles 520 acres were disforested by notification issued under Section 26 of the Forest Act, and the balance, 18 square miles 408 acres, represents rectifications of errors either discovered in the forest registers or in the figures of the old survey by the revision survey when its operations have been completed. In the same way, of the reductions in the "Protected Forests", 50 square miles 203 acres are due to absolute exclusions of lands from protected conservation, some of the lands have been converted into Reserved Forest, and 1 square mile 403 acres to corrections of mistakes in figures. Of the areas added during the

year, rectification is responsible for 15 square miles 194 acres of "Reserved", while by notifications under Sections 19 and 28 respectively 235 square miles 471 acres have been freshly constituted "Reserved Forests" and 119 square miles 165 acres "Protected Forests."

14. The proportion of the forests finally constituted to the whole area of each Collectorate and the progress made in "Forest Demarcation," which means the selection of areas for forest reservation, is as under :—

No.	Collectorate.	Territorial Area in Square Miles.	Reserved Forests duly constituted in Square Miles.	Percentage of Forest.	Number of Tálukas or Revenue Sub-Divisions.	Number of Tálukas in which Demarcation has been undertaken and sanctioned.	Number of tálukas in which Demarcation remains to be completed.	Number of undemarcated Tálukas.
1	Thána	4,243	610	14·3	10	4	1	5
2	Khándesh	9,944	1,884	18·9	16	8	3	5
3	Násik	5,940	1,111	18·7	12	9	2	1
4	Ahmednagar ...	6,666	836	12·5	11	7	4	...
5	Poona	5,348	722	13·5	8	4	4	...
6	Sátára	4,988	660	13·2	11	6	5	...
7	Sholápur	4,521	233	5·1	7	6	1	...
8	Surat	1,662	969	58·3	8	1	3	4
9	Panch Maháls ...	1,613	206	12·7	3	2	1	...
		44,925	7,231	16·09	86	47	24	15

15. In the tálukás where the demarcation has been undertaken and sanctioned by Government there still remain lands to be acquired in order to complete the approved demarcation schemes; these lands are held for cultivation and other purposes by survey occupants, but negotiations are being carried on for their obtainment by giving other available waste lands in exchange for them, or by payment of compensation for surrender of the rights of occupancy. During the year of the report, 5,432 acres were obtained on payment, and Rs. 17,086 were expended for the purpose.

16. Of waste and forest lands selected for reservation, and of the lands which have been acquired by exchange or by purchase during the year, considerable areas, which had been provisionally declared as proposed for forests by notifications under Sections 4 and 28 of the Forest Act, were still undergoing settlement inquiries at the close of the year, and had not been finally constituted "Reserved" and "Protected Forest." The following table gives a distribution of these unsettled forest lands :—

No.	Collectorate.	Provisionally notified.						Remarks.
		Of Reserved Forests under Section 4.		Of Protected Forests under Section 28.		Total.		
		S. Miles.	Acres.	S. Miles	Acres.	S. Miles	Acres.	
1	Thána	2	227	...	...	2	227	
2	Khándesh	307	274	...	...	307	274	
3	Násik	1	323	...	...	1	323	
4	Ahmednagar ...	6	432	1	58	7	490	
5	Poona	22	326	...	...	22	326	
6	Sátara	...	581	...	...	...	581	
7	Sholápur	43	513	...	...	43	513	
8	Surat	...	...	...	...	...	...	
9	Panch Maháls ...	15	110	118	107	125	217	
		400	226	119	165	519	391	

17. Whether the sanctioned demarcation schemes of the several tálukás provide sufficiently for the storage of the rainfall in the country—

(*a*) for the maintenance of a water-supply in springs, rivers, tanks and for the natural irrigation of the lands upon the lower levels of the country, which being occupied for purposes of cultivation ought to be commanded by forests located up on the higher levels, which would then serve as natural reservoirs ;

(*b*) for the safety of roads, bridges, railways and other lines of communications, as well as of cultivation in the champaign against destructive floods ;

(*c*) for the preservation of the beds and channels of rivers and streams of tidal and navigable creeks and estuaries, the beds of lakes, artificial reservoirs, tanks, the foreshores and beds of harbours and bays, against the deposit and accumulation of silt :

(*d*) for the retention of the soil upon ridges and slopes and in the valleys of hilly tracts ;

(*e*) for the prevention of the formation of torrents and ravines ;

is by no means certain. The selection of forest areas, although made with care by the very able and intelligent Assistant Collectors who have been specially employed upon this work, and have performed it laboriously and conscientiously, has been restricted by circumstances beyond their control, such as hill slopes being in possession of private individuals for cultivation or other uses than of forest conservancy, and the admitted demand for land either for purpose of cultivation or for purposes of grazing for sheep, goats and other cattle. The drainage basin of Bombay harbour is to be found in the Thána and Kolába Collectorates, and it may be taken roughly at 1,500 square miles. The rainfall over this basin averages at least 100 inches in the twelve months ; the greater portion of this rain, however, falls within a brief period of a few weeks. It would require a water tower of great dimensions having its four sides one mile long each way, and of the height of 2½ miles to hold this enormous volume of water. The erosive power of such a heavy concentrated rainfall precipitated from a great height must necessarily be of giant force. If then the steep slopes within the catchment whereupon this water is poured are not completely protected by superior vegetation to break the force of the falling rain and to let it down gently on to the ground, to retain the greater portion of it, and to bind the surface soil to the sides of the hills, the removal of earth from off their surfaces with its eventual deposition upon the lowest level, in this case in the harbour of Bombay, is the certain effect of a present cause. One inch depth of soil taken off an acre of surface represents 3,600 cubic feet of earth, and one inch off 1,500 square miles of surface no less than 3,45,60,00,000 cubic feet ; fortunately of the catchment basin made up very largely of hill and mountain slopes, a large proportion is still covered with trees, being included within "Reserved Forests". Considerable tracts, however, of it being steep sloping ground are not within reservation, are under no protection whatever, and are exposed fully to the motive power of the rainfall, and the result may possibly be read in a letter which Mr. Russell Aitken, some time Engineer to the Port Trust of Bombay, addressed to "The Times" nswspaper of London last year, where the following sentence appears : "There was deep water in Bombay Harbour only where there was a rapid current to keep the channel open." It has also been reported that large sums of money have been expended in the past few years in dredging silt out of the docks and harbour of Bombay. With the ever present examples of the silted up condition of the tidal channels of inland navigation of the Ratnágiri Collectorate, owing to the destruction of the forests upon their catchments, and of the Gulf of Cambay with the estuary of the Tápti River, the importance of extending forest reservation downwards to at least the base contour line of all the hilly lands, and of maintaining in the highest state of efficiency a complete covering of forest upon the slopes within the drainage basin of Bombay harbour, may not possibly be denied. The cost of obtaining occupied hill lands within the catchment basin would not probably exceed the amount spent during three or four years in dredging the harbour and the docks of Bombay.

18. In the Deccan, the country above and east of the Western Ghâts, forest protection is very partial and defective; and the demarcation schemes are not capable, at present, of affording protection against floods. In the month of December last a rainfall lasting 12 hours over the country of the head-waters system of the Sina River created a flood which interrupted traffic between the city of Ahmednagar and the railway line 4 miles off, washed away cattle, farm implements and crops, and did serious damage to house and other property. The storage of the rainfall of the Deccan in place of its immediate return to the sea in the interests of agriculture, and as an insurance against famine, is one of the strongest arguments for the expansion of forest reservation so as to include all water-sheds, sources of streams and rivers, mountains and hills, and such other portions of the country as are adapted by nature to remain covered with forests, and which cannot, at the best, if brought under cultivation, produce more than two or three meagre crops, and then become desolate wastes.

19. At the commencement of the official year, Messrs. Lawrence and Atkins, of the Civil Service, were engaged in forest demarcation and settlement in the Thána Collectorate; on the 9th April the former proceeded on leave and eventually to England, while the latter on the 19th July relinquished charge of his own and of Mr. Lawrence's office, which he had taken over, in order to join his new appointment of Under Secretary to Government in the Revenue Department. From the 19th July to the 13th September 1886 the District Deputy Collector was in charge of the demarcation and settlement offices, and was relieved on the 14th September by Mr. W. S. Owen, Assistant Superintendent Revenue Survey Department, who was appointed Forest Settlement and Demarcation Officer of Thána, and who continued in office throughout the remainder of the year. Orders of Government have been passed—

(*a*) in their Resolution No. 7001, dated 2nd October 1886, on the supplementary report upon the forest settlement and demarcation of the Mokháda Peta;

(*b*) in their Resolution No. 8900, dated 20th December 1886, on the supplementary reports of the Kalyán Táluka;

(*c*) in their Resolution No. 7022, dated 4th October 1886, on the allotment of the hill lands in the Karjat Táluka for varkas cultivation.

20. Demarcation schemes for the Sháhápur and Murbád tálukás within the catchment basin of Bombay harbour, prepared and submitted by Mr. Atkins, C.S., were met with considerable objections on the part of all the forest officers consulted, on account of the proposed exclusion of hill slopes containing valuable teak and other timber, the property of Government, and the insufficiency of the projects for protecting all the drainage slopes in the two tálukás. No orders of Government have been passed upon these proposals.

21. Mr. Owen has completed the settlement inquiries in the Bassein, Bhiwndi, Kalyán, and Sálsette tálukás, which remained to be done; has acquired by purchase, for Rs. 267-15-6, 4 acres and $2\frac{3}{4}$ gunthás of occupied lands inside the forests; has commuted the right of certain Thákurs to live in a hamlet inside the Shirgaon forest of the Kalyán Táluka by giving them another site in another village outside of forest limits with timber for building new houses; has demarcated the forests of Sakwar and Bhatane in the Bassein Táluka; has inquired into and arranged for the location of cultivation areas and hamlets for Thákurs upon the slopes of the Mátherán hill range and other hills within the Karjat Táluka; has prepared and submitted to Government a list of forest and waste lands to be included in the forest demarcation scheme of the Váda Táluka—this list has been notified subsequently under Section 4 of the Forest Act; and has prepared and supplied the local Revenue officers with complete forest registers of the Sálsette, Bhiwndi, and Kalyán tálukás. Thus it will be seen that Mr. Owen has been very actively and industriously employed.

22. In the Collectorate of Khándesh, Mr. Lamb, C.S., was still Forest Settlement and Demarcation Officer at the opening of the year: on the 12th July he proceeded on privilege leave, and returned on the 7th September 1886, the acting Collector of the district holding charge of his office during his absence;

on the 24th February 1887 Mr. Lamb finally relinquished charge, on transference to Burmah, to Mr. E. Morrieson, C.S., who directed the forest settlement and demarcation work in addition to the revenue and magisterial duties of his own appointment as Assistant Collector up to the end of the year. Mr. Lamb prepared and submitted proposals regarding the location of the Bhil settlements and the demarcation upon the ground of the outer boundary line of the Fatepur-Amoda Reserved Forest in the Sháháda Táluka, which were approved and sanctioned by Government. He submitted demarcation schemes of the Amalner, Erandol, Jalgaon, Páchora, and Jámner tálukás : in respect of the three first-named, final orders of Government were passed in Resolutions Nos. 7105 of the 6th, 7533 and 7534 of the 25th October 1886 ; the Páchora scheme was returned for revision, but no orders had been issued regarding Jámner before the end of the year ; he selected lands upon the banks of rivers in the Bhusával Táluka for being converted into plantations for the protection of the banks, and at the same time to form fuel and fodder reserves such as are the valuable bábul reserves in other portions of the Deccan, in accordance with orders of Government conveyed in Resolution No. 7592 of 1885, but Government in their Resolution No. 3059 of 17th May 1887 have directed that the Commissioner should set apart the selected reserves under Section 38 of the Land Revenue Code if arrangement can be made for their protection in the Revenue Department, otherwise they should be left alone, as it would not be possible to increase forest establishment for their protection ; he completed the settlement of the sanctioned Jalgaon Táluka demarcation scheme ; and he commenced and had made considerable progress in the demarcation of the Bhil settlements inside the Taloda Reserved Forest, and the determination of the outer boundaries of this reserve, when his exceedingly useful career as a Demarcation and Settlement Officer was cut short by his transfer to Burmah. Mr. Lamb applied himself to demarcation and settlement of the Khándesh forests with great vigour, ability and interest, and it is much to be regretted that circumstances have prevented the work being brought to a successful termination by him, as his knowledge of the country, of the people, and of the requirements of forest conservancy gave special value to his service as a Forest Demarcation Officer. Up to the end of the year the out-door work had been finished, final sanction having been accorded, in 9 tálukás, *viz.*, Sávda, Chopda, Shirpur, Jalgaon, Erandol, Amalner, and Sháháda. Schemes had been submitted for two more, *viz.* Páchora and Jámner, and the scheme for Bhusával was approaching completion, leaving the six tálukás of Taloda, Nandurbár, Pimpalner, Chálisgaon, Dhulia, and Sindkheda to be attended to.

23. Mr. Frost, C.S., Special Officer for Demarcation and Settlement in the Násik Collectorate, was employed at the opening of the year in the Baragaon Dángs, below the Western Ghats. in selecting forest areas, with the result that 16,436 acres were demarcated, and the proposals in respect of them were submitted to Government in August 1886, but final orders had not issued before the 31st March 1887. Grazing schemes have been prepared by Mr. Frost for the Kalvan, Násik, Báglán, Sinnar, Niphád, and Dindori tálukás ; these schemes show the particular lands with their acreage of the forests of every village in the táluka which the Forest Settlement Officer considers should be opened to, and closed against, the free pasturage of all village cattle. The forest settlement and demarcation of the Násik, Báglán, and Sinnar tálukás were likewise revised and completed by Mr. Frost during the year, and the revision of the same work was commenced in the Dindori Táluka. Mr. Evelyn Gray, C.S., who was also on special deputation in the Násik Collectorate for determining and constituting forest reservations, completed during the year the demarcation scheme of the Peint Táluka below the Western Ghats, and then rejoined his revenue office in the Thána Collectorate. The only work remaining to be done in the Násik Collectorate, at the close of the year, was the completion of the revision of the demarcation and settlement of the Dindori Táluka and of the Igátpuri Táluka —the former partially done, and the latter not yet commenced. 648$\frac{11}{20}$ acres of occupied lands with the forest boundaries in the Peint and Dindori tálukás were purchased for Rs. 660-15-0. Several errors aggregating 1,379 acres, discovered in the figures given last year of the forests of the Násik Division, have been rectified now. Both Mr. Frost and Mr. Gray have performed excellent work of a lasting character in the Násik Collectorate.

24. The Ahmednagar Collectorate has enjoyed the continued services of Mr. A. F. Woodburn, C.S., as Special Forest Demarcation and Settlement Officer. Reports have been submitted containing projects of reservations respecting all the tálukás, but the final orders of Government have to be issued regarding the Sangamner, Akola, Kopargaon, and Nevása tálukás. Some of these schemes were returned for reconsideration, Government being of opinion that Mr. Woodburn's proposals for the Sangamner and Nevása tálukás included in forest reservation more lands than it was desirable to alienate for the purpose. 1,249 acres of lands inside the demarcation schemes of the whole district have been acquired during the year by payment of compensation amounting to Rs. 4,599-2-10, and 233 3/16 acres have also been acquired by exchanges. Rectification of mistakes discovered in the figures of forest registers, and the transfer of some forest lands to the adjoining Collectorate of Poona, have affected the forest acreage returns. Mr. Woodburn has successfully completed the forest selections and forest settlements of this large Collectorate with patience, great industry, tact and management, and has thereby performed work of the highest value to the State in re-organizing the natural reservoirs of the country, and establishing them free from the burden of all and any private rights, save of the right of way. That the demarcation schemes are sufficiently extensive, will possibly be disputed by forest officers, but local circumstances will not permit larger reservations at present.

25. The demarcation work of the Poona Collectorate has been practically completed; the only portion that remains to be demarcated is the forest block round the celebrated hill-fort of Singhar, near Poona, and the orders of Government upon the demarcation scheme of the Haveli Táluka remain to be issued, the report was returned to the Demarcation Officer for reconstruction and re-submission. The office of forest demarcation and settlement officer has been held by the following gentlemen during the year :—

Mr. P. C. Snow, C.S. ...	In charge of whole district	...	From 1st April to 26th April 1887.
	In charge of western division	...	From 29th July to 3rd November 1886.
	For the whole district ...	...	From 4th November 1886 to 16th March 1887.
Mr. E. C. Morrieson, C.S.	In charge of whole district	...	From 27th April to 28th July 1886.
	In charge of the eastern division	.	From 29th July to 3rd November 1886.
Mr. W. P. Symonds, C.S.	In charge of the whole division	...	From 17th March to end of year.

Owing to the transfer of certain villages of the Párner Táluka of the Ahmednagar Collectorate to the Sirúr Táluka of Poona, 1,708 acres 38 gunthás of Reserved Forest have likewise been transferred from the former to the latter, 2,054 acres 27½ gunthás of occupied lands inside the demarcation schemes have been purchased for Rs. 6,045 from time to time during the course of the year.

26. Several officers have been in charge of the Forest Demarcation and Settlement Office of the Sátára Collectorate at different times of year of this report, as under :—

Mr. B. G. Sáthé, Deputy Collector—From 1st April to 13th June 1886.

Mr. H. R. Cooke, C.S., Assistant Collector—From 14th June to 1st August 1886.

Mr. Rajaram Khanderao Vaidya, Deputy Collector—From 2nd August 1886 to 31st March 1887.

But the demarcation of all the forest lands had been practically completed the year before last by Mr. Muir-Mackenzie, C.S. Settlement inquiries respecting the forests of 40 villages have been completed by Mr. Rajaram Khanderao Vaidya during the year. The orders of Government upon the settlement and demarcation reports of the five tálukás of Tásgaon, Khánápur, Khatáv, Pátan, and Válva remain to be issued; the reports of the two first-named are with Government, the Khatáv and Pátan projects are with the Commissioner, and the

report of Válva has not yet left the Divisional Forest Office of Sátára. Forest registers of all forest lands finally constituted and sanctioned have been written up. Rs. 1,326-6-10 have been paid in compensation for land and rights, 426 acres 36 gunthás having been acquired. Two cases of compensation in the Wái Táluka under the Land Acquisition Act were appealed against to the higher Court, and were decided by the District Judge: in one case the decision of the Forest Settlement Officer being upheld, and in the other larger amounts being awarded than had been assessed in the first instance. The names of Messrs. Spence, Shewan, and Muir-Mackenzie, all of the Civil Service, will ever be associated with the demarcations of the Sátára forests, where the treatment of two important questions affect the value of their work, *viz.*

(1). Kumri cultivation upon the Ghátmátha, *i. e.* cultivation by the axe and fire of inferior grains upon the ashes of destroyed forests at the crest of the Western Ghats, where the head-waters system of all the rivers are located.

(2). The cutting of thorns by villagers upon the denuded hills included in the reserves in the eastern portion of the district, where reboisement is the chief work of forest conservancy, and the presence of thorny scrub is of vital importance to its success, in order to bind the little soil that remains to the hill slopes, to create new soil, to provide cover and shade, to nurse seedlings, and to break the dropping force of the rain, and to check its surface off flow.

27. Mr. Silcock, C.S, held charge of the forest settlement and demarcation offices of the Sholápur Collectorate in addition to the revenue charges as Assistant Collector of the Mádha and Karmála tálukás, and the following work has been performed during the year:—

(1) *Sholápur Táluka.*—Settlement inquiries in respect of 4,675¾ acres of provisionally notified reserved forest have been completed, of which 4,242$\frac{7}{10}$ acres were finally constituted under Section 19 of the Forest Act, and the balance was excluded. This work was approved and sanctioned by Government Resolution No. 6856 of the 27th September 1886. 881$\frac{7}{10}$ acres of occupied lands have been acquired by purchase and exchange, leaving 2,939½½ acres still to be acquired.

(2) *Bársi Táluka.*—41 acres have been settled and constituted by notification under Section 19.

(3) *Mádha Táluka.*—361$\frac{7}{20}$ acres have been settled and constituted and 35$\frac{37}{40}$ acres have been purchased.

(4) *Karmála Táluka.*—Settlement inquiries were progressing. 1,122$\frac{39}{40}$ acres of occupied lands inside demarcation schemes have been purchased, leaving 2,117$\frac{7}{10}$ acres to be acquired.

(5) *Pandharpur Táluka.*—1,043$\frac{7}{20}$ acres have been settled and declared Reserved Forests, and 386$\frac{29}{40}$ acres of occupied lands have been purchased, leaving only 309$\frac{3}{4}$ acres to be acquired.

(6) *Sángola Táluka.*—Demarcation scheme was before Government. 850$\frac{7}{40}$ acres of occupied lands were purchased.

(7) *Málsiras Taluka.*—568¼ acres of Reserved Forests were settled.

28. Forest settlement inquiries were completed during the year in the Bulsár, Chikhli, and Párdi tálukás of the Surat Collectorate in respect of all the lands notified under Sections 4 and 34 of the Forest Act, and were commenced in the Mándvi Táluka by Mr. Umedrám Ranchordás, District Deputy Collector, who performed this work in addition to his revenue and magisterial duties.

29. Mr. W.T. Morison, C.S., the energetic Forest Demarcation and Settlement Officer of the Panch Mahás, was transferred to Burmah, and gave over charge of his duties to Mr. G. M. Urquhart, Assistant Collector, on the 24th February 1887; but before his departure he had prepared and submitted demarcation schemes for the Godhra, Hálol, Jhálod, and Dohad tálukás, thus completing the forest demarcation of the whole district. The forest settlement report of the Kálol Táluka, the demarcation project of which had been satisfactorily arranged by Mr. Shewan, C.S., last year, was before Government. The net results of

the orders passed upon the several demarcation schemes has been to disforest entirely 2,889 acres less 801 rectification of area of Reserved Forest, to create 75,626 acres of "Protected Forest" under Chapter III of the Forest Act from forest areas more or less richly covered with timber, which had previously been notified as proposed Reserved Forests under Section 4 of the said Act, and to notify as proposed "Reserved Forest" 2,256 acres of waste land.

Jhálod Táluka.—26,902$\frac{2}{5}$ acres, equal to 15 per cent. of the táluka, are included in the demarcation scheme, which was sanctioned by Government Resolution No. 8095 of the 16th November 1886.

Dohad Táluka.—46,519$\frac{2}{4}\frac{1}{0}$ acres, equal to 23 per cent. of the táluka, are included in the demarcation project, which was sanctioned in Government Resolution No. 848 of the 5th February 1887.

And in their Resolution No. 910, of the 9th February 1887, Government directed that these forests should be "Protected" and not "Reserved," because, in the opinion of Government, strict conservancy is difficult in these localities, and a variety of privileges have been granted in the forests the exercise of which would make them Reserved only in name. The two tálukás are comparatively high tableland, and contain the first sources of streams; the timber is chiefly teak: the forests growing on low hills and broken ground are fairly dense in places, and are generally improvable, many kinds of trees being represented. There is a local demand for firewood especially, and the extension of the railway line from Godhra through the Dohad Táluka to Rutlam will possibly create a further demand for export. The waste area outside the forest boundaries is considerable. For these reasons it may be found advisable, at no distant date, to bring the forests of Jhálod and Dohad under better treatment, and to convert them into "Reserved Forests."

Godhra Táluka.—Here the Reserved Forests gazetted under Section 34 of the Forest Act comprised 86,647$\frac{3}{8}$ acres and the Protected Forests 17,183$\frac{1}{2}\frac{1}{0}$ acres. Subsequently in 1879, 1881 and 1884 additional 3,473$\frac{1}{4}$ acres were notified as proposed "Reserved" under Section 4 of the Forest Act, and the original demarcation scheme prepared by Mr. Morison, the Special Assistant Collector, and generally approved by the Forest Department, provided for a "Reserved Forest" area of 96,033$\frac{3}{4}\frac{1}{0}$ acres with no "Protected" forests. Of the former, which has been gazetted under Section 34 of the Forest Act, 2,875$\frac{1}{2}\frac{1}{0}$ acres and of the latter, 12,858$\frac{7}{2}\frac{}{0}$ acres were proposed to be absolutely disforested. 4,325$\frac{1}{2}$ acres of the forest lands in "Protected Forests" were proposed for conversion into "Reserved Forests." 3,462$\frac{2}{4}\frac{7}{0}$ acres of lands provisionally notified under Section 4 were likewise proposed to be finally constituted "Reserved Forest". 4,097$\frac{3}{4}\frac{9}{0}$ acres of available waste and 376$\frac{1}{1}\frac{}{0}$ acres of occupied were also to be added to the "Reserved Forest." The net result of the demarcation scheme, which gave compact forest blocks in the most important teak-producing tract of the Panch Mahals, was the decrease of the then existing forest area by 11,270$\frac{2}{4}\frac{3}{0}$ acres. The forest officers objected to the exclusion of some of the better wooded tracts of "Protected Forest", which adjoin the old "Reserved Forests." Government, however, were of opinion that this demarcation scheme placed too much land in forest reservation, and did not provide sufficiently for a possible expansion of cultivation in the immediate future; and they declined to sanction it, and directed the special officer to revise it in consultation with the Land Revenue officers. A revised scheme was accordingly submitted; and finally Government in their Resolution No. 1318, dated 2nd March 1887, Revenue Department, sanctioned for the Godhra Táluka a "Reserved Forest" area of 72,446 acres and a Protected Forest area of 19,088. The net results of this sanctioned scheme are that the gazetted and notified "Reserved Forest" areas are to be decreased by 17,944 acres and the "Protected Forests", on the other hand, to be increased by 1,905 acres, the total forest area being decreased by 16,039 acres, and 16,473 acres of timbered lands more or less covered with teak trees formerly gazetted "Reserved Forest" become "Protected Forests." The boundaries of the forest reservations are made very irregular in places by these arrangements, which break into solid compact blocks.

30. No demarcation has been undertaken in foreign States by forest officers of the Northern Circle during the year, but orders have been passed by Govern-

ment upon the report of the Committee that had been specially appointed for the work regarding the demarcation of the catchment basins of the Fife and Bhatghar Lakes with the head-water systems of the Nira and Mutha Canals, to afford protection against the deposition of silt in the beds of the lakes and canals, with the consequent deterioration and possibly the ultimate destruction of these very costly and highly valuable projects, not only in the interests of agriculture, but also upon sanitary grounds, for the Fife Lake and Mutha Canal supply drinking water to the city of Poona and to the cantonments and civil stations of Poona and Kirkee. Mention is made, in paragraphs 31 to 33 of the administration report of last year, of the proceedings of the Committee of which Mr. Joshua King of the Civil Service, Collector and Political Agent of Sátára, was President, and two Executive Engineers of the Irrigation Department, Messrs. Burke, C.E., and Clifton, C. E., with the Conservator of Forests were members. The Commissioner, C. D., condemned the scheme as being, in his opinion, too sweeping, and impolitic; and Government in their Resolution No. 246 of the 12th January 1887 appointed Mr. Báláji Gangádhar Sáthé, Deputy Collector, on special duty to report to Government what scheme of forest demarcation and settlement can be carried out, and at what cost. The conditions to prevent-silt accruing being taken into account, but should not be the only object, the interests of the rayats and the rights of the Pant of Bhor being considered also—kumri cultivation being put a stop to where possible. Mr. Sáthé had submitted no report before the close of the year.

2.—FOREST BOUNDARIES.

31. The work of "Demarcation" as technically used in the Forest Department Code, meaning the defining of the boundaries of forest reservations upon the ground, has been pushed forward with vigour in several districts, for it is of great importance that forest boundaries and forest boundary-marks should be recognized and recognizable as such when and where they may be seen. Instructions regarding the construction and location of special forest boundary-marks have been issued to all Divisional Forest Officers during the year, and the construction of the special marks has been regulated by the specification of them given. These instructions provide—

Specification of Forest Boundary-Marks.

I.—In hilly country and also in the plains, where stones are to be found in considerable quantity, there shall be two classes of forest boundary-marks of the following specification :—

Shape.—A truncated cone.

Description.—Built of loose stones upon an excavated foundation, so that the lowest tier of stones shall be held in position and not pushed out by the weight of the superstructure, especially when the ground becomes wet and slippery. The interstices between the large stones composing the cairn are to be filled in with small stones, and the outer stones are to be wedged with stone chips. A shaped stone showing a height of at least 15 inches is to be fixed firmly on the top of the cairn in the centre.

Foundation.—Six (6) inches to be dug out.

Dimensions.—*First class mark* to have a base of 7 feet diameter, to be 5 feet high, and the top to be 4 feet diameter.

Second class mark to be on a base of 4 feet diameter, to be 3½ feet high, and to be 2½ feet in diameter on top.

Indicator.— A cut stone showing at least 15 inches clear of the cairn to be embedded firmly in the centre on top; the stone to be large enough; a serial number to be cut on it if required.

Colour-wash.—The stone to be colour-washed red annually, and lines of the same colour are to appear on the top of the cairn radiating from the centre stone, to show the direction of the boundary lines.

N.B.—Bámbus, or Euphorbia verrifolia, (Sabri), to be planted in clumps round each boundary-mark.

Position.—A 1st class boundary-mark to occupy main points and angles, such as where the boundary of a forest block, forest compartment, or village may intersect the forest boundary, and where the latter may take an abrupt turn.

A 2nd class boundary-mark to occupy intermediate points.

N.B.—(1).—The boundary-marks are to be placed at visible distances one from the other, so that from any mark its neighbouring one on both sides can be seen clearly.

(2).—Where loose stones are not plentiful, instead of smaller cairns to occupy intermediate stations, the 1st class marks can be connected by a row of stones, showing one foot above ground placed in a single line, one guntha chain or 22 yards apart which are to be coloured red.

Approximate cost.—A 1st class boundary-mark can be constructed at an expenditure of from 7 to 9 annas and a 2nd class boundary-mark at a cost of from 2½ to 4 annas.

II.—In the plains, where loose stones are not plentiful, the forest boundary-mark may consist of a truncated cone made of earth well rammed, or of sun-dried bricks, or it may consist of the ordinary revenue survey bándh or boundary-mark with a stone struck on the top, which will be coloured red, and the bándhs upon the forest boundary will be connected by stones showing 1 foot above ground, to be colour-washed red.

It is desirable that the reserves on the plains shall be fenced, and the fences will be supplemental to the boundary-marks for defining and protecting the forest boundaries. Living fences may be made of Euphorbia verrifolia (Sabri) and E. tirucally (Sher), Opuntia dillenii (Nagphani niwadung), Inga dulcis (Vilayati chinch or Deckni bábul), Lawsonia alba (Mendhi) Cæsalpinia sepiaria (Chilhar or Mysore thorn), &c.

RULES FOR THE INSPECTION AND MAINTENANCE OF FOREST BOUNDARY-MARKS.

I.—The forest guard of the beat will be responsible for the maintenance and protection of all the boundary-marks in the forests of his beat, he will colour-wash them annually after the Diváli holidays, and will make a special report of having performed this work; he will repair with his own hands any marks that may become disarranged, and he will plant bámbus or other vegetation, as directed, round or close to each mark, and also upon the forest boundary line to form a living hedge.

Each forest boundary-mark in his "beat" is to be specially inspected by the beat guard, at least once in every three months, and a record of his inspection of marks is to be entered in his diary when it may occur.

II.—The round guard will be responsible for the maintenance and protection of the boundary marks in the forests of his round; he will see that they are maintained in proper repair, are colour-washed, as directed, by the beat guard, and that the required measure of planting upon the forest boundaries or at or near the boundary-marks is undertaken and performed by the beat guard.

The round guard will specially inspect every forest boundary-mark in the forests of his round once in every year, and will make a record of every inspection made in his diary when it may occur, and also will submit a special report to the Divisional Forest Officer upon the state and condition of the boundary-marks, forest boundaries, living hedge, &c., as soon as he may have completed the inspection of the boundaries of any forest village or forest block.

III.—The Range Forest Officer will, during the official year, inspect and specially report upon the state and condition of the forest boundaries and forest boundary-marks of not less than two miles of forest boundary in every "beat" in his range. A record of inspections made will be entered in his diary when they may occur.

32. The progress made and cost incurred upon demarcation of boundaries during 1886-87 in the different Divisions appears in the following statement:—

No.	Divisions.	Length of Boundaries.	Number of Cairns erected.			Cost.		
			Large.	Small.	Total.			
		Miles.				Rs.	a.	p.
1	North Thána	50	700	1,622	2,322	1,266	5	6
2	South Thána	„	281	1,193	1,474	697	13	0
3	East Khándesh	„	198	669	867	332	9	0
4	West Khándesh	„	...	604	604	151	9	3
5	Násik	„	910	...	*910	44	4	0
6	Ahmednagar	„	600	1,247	1,847	886	14	0
7	Poona	„	3,031	3,984	7,015	2,314	4	9
8	Sátára	„	159	2,128	2,287	491	7	2
9	Sholápur	„	140	187	327	249	6	4
10	Surat	„	...	77	77	107	8	0
11	Panch Máhals	„	73	580	653	171	9	0
	Total ...		6,092	12,291	18,383	6,713	10	0

*556 in Peint were erected without cost.

3.—FOREST SETTLEMENTS.

33. In the Thána Collectorate the settlement inquiries have been completed in the five sub-divisions of Sálsette, Bhiwndi, Kályan, Mokháda Peta, and Bassein; they are in progress in the Karjat Táluka and Khálápur Peta; and they have to be undertaken in the Máhím, Dahánu, Váda, Shaháp ur, and Murbád Tálukás, and in the Umbargaon Peta. It may be said that $\frac{2}{3}$ of the forest area of the district remain to be treated by the Forest Settlement Officer.

34. In the Khándesh Collectorate the settlement has been completed in the Sávda, Yával, Raver, Chopda, Shirpur, Sháháda, Amalner, Erándol, Jalgaon, Bhusával and Edlabad ranges, is in progress in the Jámner, Páchora, Bhadgaon and Táloda ranges, and remains to be commenced in Akrani, Nandurbár, Pimpalner, Navápur, Nizámpur, Dhulia, Sindkheda, and Chálisgaon ranges. About $\frac{3}{5}$ of the forest area of this Collectorate is still to be settled.

35. Out of the 12 forest ranges of the Násik Collectorate the forests of 9 have been settled under the Forest Act, and found to be free of all private rights, save of way; the settlement is in progress in 2 ranges, *viz.*, Peint and Dindori, and it has to be made yet in one—Igatpuri. Thus about $\frac{7}{8}$ of the forest area of the Collectorate have been finally settled.

36. In the Poona Collectorate the work of enquiring into rights and settling the forests has been finished in the 6 ranges of Mával, Sirúr, Indápur, Bhimthadi, Bárámati, and has been partially done in the other 6 ranges of Junnar, Haveli, Mulshi, Purandhar, Khed, and Ambegaon. The forests of 111 villages were settled during the year: and probably one-third of the forest area of the Collectorate has to be settled.

37. The settlement inquiries in all the 11 tálukás and 2 petás or 13 forest ranges of the Sátára Collectorate have been completed, with the exception of lands newly acquired in 5 tálukás, the demarcation reports of which are before Government. Practically the work is finished in the Collectorate.

38. In the Sholápur Collectorate also the only settlement inquiries in the future will be in respect of such additional lands now occupied and included in the different demarcation schemes as may from time to time be acquired by purchase or exchanges.

39. The settlement of about 34 square miles of "Reserved Forests" in the Mándvi Táluka of the Surat Collectorate has yet to be made; but as very careful inquiries were conducted at the time these forest lands were first reserved when Mr. (now Sir) Theodore Hope was Collector of the district, the enquiries under the Forest Act will be of a purely formal nature.

40. In the Panch Maháls the forests of one range, Kálol, only have been completely subjected to settlement; the work has to be done in the four other ranges of Godhra, Halol, Jhálod or Dohád, or in about $\frac{7}{8}$ of the forest area.

41. Enquiries into forest rights in respect of inám alienated villages have likewise been made by the Forest Settlement Officers in all the divisions. Their opinions in each case, with a report of the circumstances of the Inámdárs' claim and the rights of Government so as to fix the legal status of respective proprietary rights in so far as the forests are concerned, are submitted to the Legal Remembrancer, who records his own opinion, and finally a formal order of Government is resolved and published. Thus in the Khándesh Collectorate Mr. Ommanney enquired into and reported upon 4 cases, and Mr. Lamb upon 76; and the orders of Government have been received regarding 77 of these 80 villages, 32 villages remain to be reported upon, and 35 villages remain for Government to pass orders upon. In the Poona Collectorate 29 villages remained to be disposed of at the commencement of the year; the Forest Settlement Officer submitted reports regarding 21 of these during the year. In the Sátára Collectorate all the inám villages have been subjected to enquiry by Mr. Báláji Gangádhar Sáthé in a very careful and able manner, and the orders of Government have been published in the cases of 53 villages up to the end of the year. In a few years hence there will be a complete record, the result of very detailed and exact inquiries, of not only the proprietary rights of Government on the one hand and of private individuals on the other, but also of rights of user in respect of all forests and timber growth in the Presidency.

4.—PRIVILEGES CONCEDED TO VILLAGERS.

42. In the Thána, Násik, Ahmednagar, Poona, Sátára, Sholápur, and Surat divisions no change has been made during the year in nature and extent of privileges previously conceded in "Reserved" and "Protected Forests."

43. In the Khándesh Collectorate the privileges sanctioned by Government Resolution No. 1540, dated 25th February 1886, have been modified, and the following Code has been sanctioned :—

Code of Rules

Regarding the Exercise of Privileges in the Forests of the North Tápti Táluka's of the Kha'ndesh Collectorate.

I.—The North Tápti tálukás include—

1. Taloda,
2. Sháháda,
3. Chopda,
4. Shirpur,
5. Sávda (with the Yával and Ráver Petás),
6. Pimpalner (with Navápur and Nizámpur),
7. Nandurbár,

} By special order.

II.—A forest village is a village which has contributed land to forest.

III.—An inhabitant of a forest village is a person resident in a forest village.

IV.—The inhabitants of other than forest villages have no forest privileges.

Exception.—Privilege No. VIII (*f*) may be exercised by all Bhils and other wild tribes resident in the táluka in which the forest block is situated.

V.—The privileges may be exercised by the inhabitants of a forest village throughout the unclosed portions of the block to which their village has contributed, but not in other blocks.

Exception.—See note below, No. VII (*b*).

VI.—Goats will not be permitted to graze in the forests without the express permission of the Conservator of Forests.

VII.—The inhabitants of forest villages may, free of charge in the unclosed portions of the forest lands,—

(*a*) graze all cattle *bonâ fide* their own property;

Exception.—This privilege does not extend to professional graziers.

(*b*) cut and remove grass, including baru, for their own use, sale or barter;

Note.—This privilege may also be exercised in such portion of the closed area as can, in the opinion of the Divisional Forest Officer, be safely opened for grass cutting only.

(*c*) collect dead-wood, except teak, tivas and khair, for fuel for domestic use, but not for sale or barter;

(*d*) take or quarry khári-earth, stone and similar material for their own use in places assigned by the forest officers;

(*e*) take teak leaves for their own use;

(*f*) cut thorns and brushwood for their own use with the previous permission of the Divisional Forest Officer, at the places and of the kinds pointed out by the Divisional Forest Officer.

VIII.—Bhils and other wild tribes are granted the following additional privileges :—

(*a*) They may collect dead-wood of all kinds, except teak, tivas, and khair, free of charge for private use.

(*b*) They may collect for sale or barter dead-wood of any but the three reserved kinds, on payment of the same fees as have hitherto been levied, namely :—

Rs. 2 per cart-load; annas 2 per head-load.

1 teak, 2 blackwood, 3 ain, 4 chinch, 5 bábul, 6 khair, 7 tivas, 8 hirda, 9 dhávda, 10 nim, 11 awal, 12 mango, 13 chároli, 14 mowra, 15 jambul, 16 anjan.

(*c*) They may cut live-wood of any but the 16 reserved kinds free of charge for domestic use.

(*d*) They may cut live-wood of any but the 16 reserved kinds for sale or barter on payment of the following fees :—

	Rs.	a.	p.
Each cart-load	1	0	0
Each head-load	0	1	0
Large bámbus, per 100	2	0	0
Small do. do.	1	0	0
Head-load of bámbus	0	2	0

(*e*) They may cut free of charge—

(1) bámbus for private use or for their own manufactures;

(2) in the Akráni Pargana "Ain" and "Dhávda" for private use under the supervision of the forest officers.

(*f*) They may collect honey, wax, gum, mowra (flowers and fruits) and other minor produce, except hirdas, free of charge for private use, or for sale or barter.

IX.—The Collector may suspend, until further orders, the exercise of any privilege on his being satisfied that it is being abused, and shall then obtain the orders of Government regarding the term of the suspension or the permanent withdrawal of the privilege abused.

X.—Under Section 78 of the Forest Act all persons enjoying privileges in forests are bound—

(*a*) to give information respecting the commission of any forest offence;

(*b*) to assist Government officers in extinguishing forest fires and in preventing theft, mischief and other forest offences, and in discovering and arresting offenders.

Code of Privilege Rules,

For South Tápti Tálukás as sanctioned by Government Resolution No. 7592, dated 19th September 1885.

I.—The South Tápti tálukás are :—

Bhusával including Edalabad Peta.

Jámner.

Jalgaon.

Erandol.

Amalner with Párola Peta.

Páchora with Bhadgaon Peta.

Chálisgaon.

Dhulia.

Sindkheda.

II.—A forest village is a village that has contributed land to forest.

III.—An inhabitant of a forest village is a person resident in a forest village.

IV.—The privileges allowed are permitted to inhabitants of forest villages only.

V.—No special privileges are permitted to Bhils and wild tribes.

VI.—Inhabitants of forest villages may free of charge—

(*a*) cut grass, including baru, in the open compartments and in such portion of the closed area as can in the opinion of the Divisional Forest Officer be safely opened for grass-cutting only, the grass so cut being at their disposal for any purpose.

Government Resolution No. 7467 of the 15th September 1885.

Exception.—This privilege may not be exercised in those portions of forests which are "Mámul kurans," and in which the grass is annually sold by auction.

Note.—The grass cut by the Forest Department in the unopened part of the closed area is to be given free of charge to the villagers of any forest village of the block in which it has been cut if required by the Collector.

(*b*) in the open compartments only, collect for their own use dead-wood branches—not trunks—of all trees except teak, khair, and tivas.

(*c*) collect mowra, honey, wax, gum, and all jungle fruits, except hirdás, which belong to Government, for their own use or for sale.

(*d*) take or quarry khari-earth, stone, and similar material in places assigned by the forest officers.

(*e*) gather teak leaves from side branches of trees outside forest boundaries or felled in forest in the course of departmental felling operations.

VII.—The Collector may suspend until further orders the exercise of any of the foregoing privileges on his being satisfied that it is being abused, and shall then obtain the orders of Government regarding the term of suspension or the permanent withdrawal of the privilege abused.

VIII.—Wood required for ploughs or houses and firewood shall, subject to the capability of the forest to furnish such wood and to the working of the working-plan, be supplied by the Forest Department on application at rates to be fixed by the Forest Department with the approval of the Commissioner to inhabitants of forest villages from the block to which such villages contribute; or if the Forest Department is unable to meet the application from its own fellings, the applicant may, at the discretion of the Divisional Forest Officer under the orders of the Collector, be granted, on payment of fees at a scale to be fixed by the Forest Department with the sanction of the Commissioner, a permit to cut, under the supervision of the forest officers, specified quantities of specified trees in specified places for his own use only for the purpose named in the permit.

44. The Resolution of Government provides that the privileges are to be exercised only in the unclosed portions of the "Reserved Forests," and it directs that the definition of closed and unclosed portions of the forests should be made by the Revenue Authorities after consulting the Forest Officers. The exercise of privileges such as are conceded in the above Code will do no harm to the forests, if in the first place the area of closure or rather the areas to be opened to grazing and to cutting trees and exploiting wood are arranged with due regard to the productive capability of the forests. Cuttings of trees cannot go on promiscuously over a large portion of the forests at one time without doing serious injury to the powers of reproducing; the size of the portion of a forest to be open to the felling of timber in one year must be determined by the total forest area and the habits, conditions, and growing power of the trees in the circumstances which surround them. After the revolution has been settled then the size of the area to be open to the cutting of trees or "the coupe" of the year of a particular tract of forest can be ascertained and defined. The convenience of those to whom the exercise of privileges may be given cannot regulate entirely the location of "the coupe," and the number of people to exercise privileges cannot influence its dimensions beyond a given point, save at the deterioration of the forests. The unclosed portion of the forest, in the words of the Government Resolution, means the area open to grazing; this area and "the coupe" of the year cannot conform to each other, for it is not necessary, even were it politically possible to do so, to close against grazing such a large proportion of the forests, taking the North Tápti Reserves as the case in point, as is required for closure for the growth of trees and improvement of the forests. The consideration of the grass crop and of the well-being of the forests where the grass grows must together regulate the location and extent of the unclosed portion of the forest, and the number of cattle to be permitted to graze and the season for pasturage. It is for the science of forestry to arrive at and to make the definition of the closed portion of the forests against fellings of timber of different descriptions, and against grazing either entirely or partially.

45. In the Panch Maháls extensive privileges have been allowed to the people. In the Jhálod and Hálol forests, where the forests are to be entirely "Protected Forests" to the exclusion of "Reserved Forest," the following privileges are allowed:—

(*a*) Free grazing for all cattle, the *bonâ fide* property of cultivators, and not kept for purposes of trade.

(*b*) Cutting, stacking, and removing grass free of charge.

(*c*) Collecting and removing, free of charge, every description of minor forest produce, including mowra.

(*d*) Cutting and removing thorns for fencing purposes free.

(*e*) Taking free all dead leaves and the live leaves of the khákra (Butea frondosa).

(*f*) Cutting and removing, free of charge, branches of the saleda required for marriage ceremonies.

(*g*) Removing, free of charge, head-load of dead-wood of all sorts, including teak; and where whole trees or large branches have fallen, cutting them up for removal.

(*h*) When reasonable requirements cannot be met from lands outside the reserves, of supplying themselves free of charge with timber of all but the 17 marginally noted trees for *bonâ-fide* domestic and agricultural consumption, the question as to the sufficiency of the supply outside the reserves to be decided in each village by the revenue officers, and free passes given for the timber required from the reserves. In the Godhra Táluka forests, Government in Resolution No. 1318, of the 2nd March 1887, have sanctioned the undermentioned privileges;—

1. Teak.
2. Blackwood.
3. Bhia.
4. Timru.
5. Rohan.
6. Ryan.
7. Mokho.
8. Khair.
9. Bábul.
10. Dhávda.
11. Sadra.
12. Mowra.
13. Mango.
14. Tamarind.
15. Nim.
16. Beheda.
17. Chároli.

"Inhabitants of all forest villages to cut grass for their own use free of charge in all Reserved Forests, exept in the portions of 11 forests, the grass of which is annually sold by the Forest Department for cutting. They may collect leaves of all kinds, cowdung, wild fruits of all kinds, except hirda and mowra, wax, honey, lac, and gum. They may collect head-loads of fallen dead-wood of all kinds for their own *bonâ-fide* use, but not for sale. They may take cart-loads of such wood for their own *bonâ-fide* use on payment of very moderate fees, which should be settled by the Collector. Passes for such loads should be issued by round guards as well as by rangers. They may have free grazing for all their own cattle."

46. A privilege of cutting all but a few reserved kinds of trees all over the forests must necessarily lead to the creation of extensive blanks in such portions of forests where none or very few of the reserved kinds of trees may be represented.

47. The expenditure incurred upon the creation and constitution of forests in the Northern Circle during the year has amounted to Rs. 1,36,767-2-0, distributed thus :—

	Rs.	a.	p.
(1) Salaries and travelling allowances of Forest Settlement Officers not charged against the Forest Department	87,569	4	8
(2) Salaries and travelling allowances of establishments employed under the Forest Settlement Officers and charged in the forest accounts and the contingent expenditure of the latter	25,398	2	5
(3) Demarcation of forest boundaries upon the ground by the construction of special forest boundary-marks.	6,713	10	0
(4) Compensation for land and rights	17,086	0	11
Total ...	1,36,767	2	0

CHAPTER II.

SURVEYS AND WORKING PLANS.

(A)—SURVEYS.

48. The survey of the Thána forests upon the scale of 8 inches to the mile was commenced by a Topographical Survey Party of the Government of India working under the direction of Colonel A. Pullan, Deputy Superintendent in charge No. 17 Party Gujarát Survey, with Mr. J. Newland as his Assistant, who conducted the work in the Thána forests. A commencement was made in that portion of the Collectorate where the largest available topographical survey maps are on the scale of 2 inches to 1 mile. The scale of 8 inches for the Thána forests was selected after careful consideration of the size and description of forest maps necessary in the Thána Collectorate, where complicated questions of local requirements in the produce of forests affect the management of the State properties; there are over 1,300 forest villages in the district, the greater portion of the inhabitants of these and also of all the other villages on the seaboard and elsewhere come to the forests for the satisfaction of their wants in ráb material, in firewood, timber, grazing, grass, &c., on payment or free, and there is a considerable population looking to the forests for subsistence in cutting, collecting and carrying timber and other forest produce. Consequently, as the State forests cover the greater portions of nearly all the hill ranges which ramify in all directions, forming an apparently confused but very consistent tracery of ridges and watersheds over the Konkan, and giving a constant succession of steep lofty hills and narrow valleys, the presence of a large number of "coupes," at not very irregular distances, over the whole country is essential to the convenience of villagers, as well as advantageous to forest conservancy. Many of these "coupes" must perforce be of small area, and maps of such a scale as will show correctly the physical configuration of the country over spaces of a few acres only are wanted. Really useful forest maps should be upon a scale large enough

to show the boundaries of the forests, the position of each boundary-mark, of the several private properties touching the forest boundaries, and all internal sub-divisions of a forest block with their respective boundaries. The 8 inches scale is quite large enough to serve all these purposes, and it is none too large; it does not give unwieldy maps Moreover, it corresponds with the scale of the Bombay Revenue Survey Department; and the advantage of having forest maps upon the same scale as the village maps is a decided recommendation. In France the scale of the forest surveys are $6\frac{1}{3}$ inches and $12\frac{2}{3}$ inches to the mile. The forest survey last season in the Thána District made no very great progress —only $52\frac{4}{5}$ square miles having been plane-tabled and mapped, the hill contours having been arrived at by water-levelling. 544 stations were trigonometrically determined, extending over an area of 107 square miles; and 156 linear miles of traverse work along forest reserve boundaries was undertaken. 12·5 square miles of the surveyed area lies in the Sálsette Range and the remainder in the Kalyán Range. But the cost came to Rs. 257 per square mile. This was very heavy, and it is attributed by Colonel Pullan to the forest boundaries not having been defined, well in advance of the survey, and to the work being new. In the future, the cost will, it is expected, be very much less. And it is not improbable that with a local forest survey branch, such as the Forest Department of the Government of India have organised, the cost could be reduced to Rs. 120 per square mile.

(*B*)—WORKING PLANS.

49. Mr. T. B Fry, Deputy Conservator of Forests, 3rd Grade, has been in charge of the Working Plans Division throughout the year. The subordinate staff consists of field and office establishments, and they are all borne upon the "*Temporary Establishments*" list. The office establishment comprises 1 clerk on Rs. 40 per mensem and 4 peons on Rs. 8 each. The field staff at the commencement of the year consisted of 4 surveyors, and during the recess, from 1st June, the number was reduced to 2; but when the working season opened in November, the staff was increased to 8 surveyors and 12 enumerators; and in January, when the work of determining the boundaries of forest reservations in the Thána District had to be undertaken, and the demarcation to be pushed on vigorously, 4 more surveyors and 12 mukádams were entertained. The examination of a teak forest of 4,300 acres in extent at Virár, in the Bassein Range, and the preparation of a provisional working plan for its management were completed at the outset by Mr. Fry and his staff. And then the determination of the coupes of the two seasons 1885-86 and 1886-87 in the Thána District, with an estimate of the material exploited and of the growing material left standing, were undertaken, and several test plots were carefully measured in various parts of the forests, and their contents counted and registered according to fixed classifications, in order to arrive at a fairly accurate knowledge of the capability of the forests. It soon became apparent, however, that further work of a similar character could not be satisfactorily carried out, for several reasons, the chief one being that the demarcation of the reservations by distinguishable boundary-marks upon the ground was required to be made in advance, not only of the forest survey, but of the differentiation of forest areas. And at a conference held by the Conservator with the Divisional Forest Officers of North and South Thána, and of Working Plans, at Chandai, in the Thána District, it was decided that the circumstance of the Thána forests required the very early completion of a systematic arrangement of working, maintaining, and improving the entire forest area of the two divisions in preference to very elaborate schemes for limited areas, the preparation of which must necessarily be a work of time; and the delay, that would follow in the disposal of the whole forest area of the entire Collectorate, might be disastrous, for a haphazard system of promiscuous fellings must tend to the deterioration of the growing stock, some areas being overworked and others not worked sufficiently to develop their powers. So long as the axe was directed by fancy and speculative effort, the result could in no way be satisfactory. The condition of the Thána forests does not favour schemes of very scientific elaboration, and the surrounding circumstances point to certain factors which must regulate to a great degree the internal economy of working schemes for the Thána forests. The existence of a large local population depending for subsistence in a great measure upon the labour to be provided by felling, collecting, stacking, exploiting timber and other forest produce, and also making a constant

demand upon the produce of the forest for agricultural and domestic requirements; the country being a succession of lofty hills and narrow valleys, with the forest estates spreading over the hills, and the villages in the valleys intermingling with the forest areas; the teak being the predominating tree in the forest and possessing vigorous powers of reproduction by coppice shoots, the ill-treatment the teak and its associates in the Thána forests have received from man for years past, and consequently the impaired condition of the forests; the great value of all forest produce owing to the demands of a very large local population combined with the demands of the city of Bombay at the door of the forests with a population of 8,00,000, and the city of Poona connected with the forests by railway communication 50 miles distant from the nearest point; the absence of timber of large scantling, and the ready market for small timber, which better serves the necessities of the peasantry, and for every stick of firewood; the facilities afforded by three lines of railway, tidal creeks, and other channels of inland navigation, cart-roads and tracks penetrating up to the head of every valley, and up the sides and summits of many hill ranges, for smuggling timber and robbing the forests; and the very large section of the population who are in league with timber-dealers and ever on the look out to make raids upon the Government forests and run timber into Bombay;—all these considerations point to the location of "coupes" of comparatively small size each at almost regularly recurring distances all over the forest area, the size of a coupe varying according to situation from 30 to 70 acres, so that proper supervision may be exercised over the "exploitation" of their material, under which term besides actual fellings may be included every operation to be performed in the coupe, such as valuation of the crop, marking and registering the reserves, testing the registers after the felling is completed, counting and classification of material extracted, and other minor works; and so that forest villagers and the peasantry generally may not have to go inconvenient distances from their houses for labour, and prohibitive distance in the light of the cost of carriage for their supplies of timber and other forest produce to be obtained free or on payment, and for the enjoyment of pasturage in forests by their cattle; and that a wood-cutting race may find a congenial honest occupation in every direction close at hand, and thus be diverted from plundering the forests which are so exposed on all sides

50. It was decided, after careful investigation into the rate of growth of timbers, and study of the biology of the teak tree in the Thána forests, that a revolution of forty years might safely govern the differentiation of the forest blocks. The length of rotation having thus been fixed, and the approximate size of coupes having been determined, the arrangement and distribution of forest working blocks followed in natural sequence, their extent and position being controlled also to a great extent also by the necessity of obtaining suitable physical boundaries. Mr. Fry and his establishments were thus engaged throughout the year, while employed in the Thána Districts, in—

(*a*) the demarcation of the forest limits of the settled and unsettled reservations in the Bassein, Sálsette, Kalyán, Bhiwndi, Karjat, and Khálápur ranges,—14,427 chains of forest boundary lines having been defined by 2,848 special forest boundary-marks;

(*b*) the differentiation of forest areas over the greater portion of the Collectorate. In consultation with the Divisional Forest Officers, "Reserved Forests," settled and unsettled, were arranged by Mr. Fry into working blocks varying from 1,000 to 4,000 acres in size upon the topographical survey maps. Unworkable areas, or climatic portions of forest tracts consisting of hill tops, steep precipices, the uppermost slopes of lofty mountains were, according to their special circumstances, excluded, and the workable tracts were sub-divided into compartments;

(*c*) the selection of the "coupes" for the coming year, their location having been arrived at under the knowledge of fellings made in past years, and of the present state of the forests; coupe maps were prepared on the 8 inches scale, each one being tested and signed by the Divisional Forest Officer of Working Plans, and issued, to be a guide in

(*d*) the demarcation of the "coupes" upon the ground, their boundaries being defined by special marks;

(*e*) the estimation of the standing crop of timber in each coupe, and the selection and marking of the reserves which was made by means of serial numbers and two rings of paint round each tree. The subordinate protective establishments of the two divisions under their superior officers co-operated in the demarcation, valuation and selection of reserves, and the registration of the trees to be felled and the trees to be retained.

51. Seeing that the forest area of the two divisions may exceed 1,000 square miles of "Reserved Forests", and that there are upwards of 1,330 forest villages, the marking out of the coupes, of the reserves or standards, and the valuation of the yield is a very laborious and responsible operation. The number of forest blocks is very large, from 30 to 50 in a range. It was not possible to differentiate in this way the entire forest tracts in the whole Collectorate, but the portions not touched last season for the want of more time and money will be done next season.

52. The completion of a simple general scheme of forest working for the whole Collectorate, which is at the same time based upon sound principles of sylviculture, is, the Conservator would urge, the best plan to adopt in connection with forest working plans of very extensive areas upon which there is considerable demand for produce, and the condition of which urgently presses for improvement. Elaborate calculations with detailed measurements and enumerations of all and every tree in a forest necessary to arrive at "an inventory of the forest" may be suitable and desirable in connection with the preparation of working plans for small timber estates or specially valuable forest which are free of the exercise of privileges inimical to a proper state of forest conservancy, and have been and may be efficiently protected, but for forests circumstanced as those in the Thána Collectorate a more rough and ready system would appear to be wanted. The number of coupes being large and widely distributed, the greater yield from some will counterbalance the smaller yield from others, and an average yield per acre for purposes of budget estimates can be safely arrived at for the range and for the division which will give a sustained annual yield. The coupes selected for next year are so located as to form the first of a series of ten, which can be worked in succession in such a manner that one-fourth of the working block will be dealt with during one-fourth of the revolution, and when the second rotation comes round, such of the sound growing trees which have now been reserved—their number is small generally—as may then be found to be sound and still maturing will be reserved, with such sound seedlings as may have come up during the interval, for another forty years.

53. During the rainy season, while in recess, Mr. Fry delivered a series of lectures on forestry to the forest class at the College of Science, Poona, and he made a tour with the Divisional Forest Officer, Poona, to the bábul reserves in the valley of the Bhima River, and arranged for a registration of their areas, contents, &c., with the view to the preparation of a working plans for these very valuable properties. Mr. Vishnu Mahádev Tilak, Range Forest Officer of Haveli, performed the necessary work in a very intelligent, careful, and highly creditable manner.

54. In the South Thána Division, compartments were set out in the bed of the Tansa Lake at R. L. 350 and at R. L. 425, with the object of disposing of the trees standing upon the bed of the lake, which will measure about 5,025 acres, before the water is impounded, and the land submerged.

55. The revision survey by the Bombay Revenue Survey Department was working in several directions in the Deccan and Konkan, and the forest reservations in each village were re-measured and all internal boundaries having been abolished, they were formed into single survey numbers in the series of the village system. The work of sub-dividing survey numbers, parts of which have been included in forest conservancy schemes and parts excluded for cultivation, was undertaken in different directions by surveyors attached to the different Forest Settlement Officers.

56. The expenditure under A *VIII c* Surveys during the year amounts to Rs. 18,106-9-1.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

(*A*)—ESTABLISHMENTS.

57. The superior forest staff allotted to the Northern Circle consists of 1 Conservator of Forests, with 13 Deputy and Assistant Conservators of Forests, for the administration of the forests of 12 divisions.

58. Mr. W. H. A. Wallinger, Deputy Conservator of Forests, 1st Grade, returned from furlough in the month of October 1886, but his health failed again in the voyage out, and he had to take sick leave in this country, and finally to retire from the service on pension upon a medical certificate from the 21st April 1887.

59. Mr. George St. Patrick Lawrence Gibson, Deputy Conservator of Forests, 2nd Grade, was away on furlough to Europe throughout the year, and resumed charge of his duties as Divisional Forest Officer of West Khándesh on the 31st March 1887. On the 18th May following, this officer had the misfortune of being attacked in the Navápur forests by a tigress, which had taken to killing human life, and which he was tracking up with a view to the accomplishment of her destruction; and though he mortally wounded her when she charged out upon him, still she contrived to bite him in the left arm and leg as she fell dead upon him knocking him down. Mr. Gibson was conveyed to Bombay by Colonel Pullan, Deputy Superintendent of Survey, and was tended with the greatest care at the European General Hospital, but unfortunately he sank, and died on the 13th July 1887 from the effects of the wounds he had received from the tigress. By his death Government have lost an active and energetic Forest Officer, whose sympathies were always with the people, especially the wild tribes of the forest districts, where he was employed, and who evinced great regard for him.

60. Mr. R. S. Fagan, 4th Grade Deputy Conservator of Forests, was absent on leave all the year through.

61. Of the class Sub-Assistant Conservators there are 7 appointments assigned to the Northern Circle; and they have all been occupied throughout the year.

62. Mr. Govind Rámchandler Mahájan, an excellent officer, of whom special mention was made in paragraph 172 of the administration report of last year, proceeded on sick leave on the 9th March from the Sátára District, and died not long afterwards. Government have thus lost a very hard-working, honest loyal, and able Native officer.

63. The numerical strength and constitution of the subordinate forest protective establishment has remained unchanged, their monthly cost amounts to Rs. 21,503, and their distribution among the different divisions is as under :—

No.	Forest Divisions.	Number of Ranges.	Range Forest Officers.							Forest Guards.						Remarks.
			Rangers.				Foresters.									
			Rs. 100	Rs. 80	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 15	Rs. 12	Rs. 10	Rs. 9	Rs. 8	Rs. 7	
1	North Thána ...	6								6	14	25	25	70	80	The pay of the rangers and foresters is personal, and the men are transferred from one range to another and from one division to another as the exigencies of the service may require. Therefore the number of appointments in each grade is shown in lump for the whole circle.
2	South Thána ...	8								8	14	25	25	70	115	
3	East Khándesh ...	13								8	16	20	20	40	75	
4	West Khándesh ...	10								7	14	18	18	50	102	
5	Násik	14								10	20	25	26	50	158	
6	Ahmednagar... ...	11	3	4	6	12	20	30	30	6	12	22	22	50	85	
7	Poona	11								9	17	25	25	60	120	
8	Sátára	14	These officers are subject							9	18	24	22	57	102	
9	Sholápur	7	to transfer from one Division							3	6	11	8	16	68	
10	Surat	6								2	4	4	6	18	27	
11	Panch Mahálo ...	5								2	5	10	10	30	48	
	Total ...	105	3	4	6	12	20	30	30	70	140	210	205	511	980	

64. In the Poona Forest Division a temporary establishment of 15 forest guards on Rs. 8 each, and 30 forest guards on Rs. 7 each, is retained all the

year round, in addition to the permanent staff, for the proper protection of the forests, which would otherwise suffer from defective conservancy owing to insufficient numerical strength.

65. The Divisional Forest Officer, North Thána, reports that much inconvenience still continues to be felt in consequence of the reduction made, last year, of 39 forest guards; and experience has shown that the measure was not of sound economy, for several notable cases of robberies have occurred in both forest divisions of the Thána District, the establishments being too few in numbers to guard effectively the forest estates, which are open on all sides to be depredated by a large section of the population, who subsist mainly upon wood-stealing, and are incited by timber-dealers to prey on the forests and upon the Government timber on occupied lands.

66. The Divisional Forest Officer, West Khándesh, reports that, on an average, the beat guards in his district have an area of about 5,700 acres of forest to protect and look after in other ways, and that a "Forest Beat" of this size is clearly too large for one forest guard to watch and tend properly.

67. The Divisional Forest Officer, Panch Mahál, remarks that where the subordinate protective establishment is almost numerically sufficient, as in Godhra and Kálol, there the general protection of the forests from thefts is fair. In Dohad, Jhálod, and Hálol the present establishment is not large enough to efficiently protect the areas under its charge, protection in many cases is indifferent, and the forests suffer accordingly.

68. A large number of forest subordinates has been punished by dismissal from the service during the year. In the North Thána Division the Range Forest Officer of Umbargaon, 4 round guards, and 5 beat guards have suffered for dishonesty; a former range forest officer of the South Thána Division, who was under suspension at the commencement of the year, was dismissed in connection with the Kalyán teak robberies, and 2 round guards likewise shared his fate. In the Násik Division 1 ranger on Rs. 100 pay, 1 range forest officer, 5 round and 1 beat guard have been discharged the service for connection with frauds and complicity in forest thefts, and in the Ahmednagar Division a range forest officer was dismissed for embezzlement of grazing fees. In every case, where appeal has been made to Government against the conviction and the sentence of dismissal finally passed by the Conservator, the justice of the conviction has been recognized, and the sentence has been upheld. The office establishments in entertainment and distribution during the year are given in the following table, which exhibits their monthly cost. There have been no serious offences among the members of this branch, and the work performed by them has been very creditable to all:—

No.	List of Offices.	Number and Gradations.											Monthly Cost.
		Clerks.								Peons.			
		Rs. 100	Rs. 80	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs 20	Rs. 15	Rs. 10	Rs. 9	Rs. 8	
													Rs.
1	Conservator's or "Direction."	1	1	1	2	2	2	2	...	1	1	5	579
2	North Thána Divisional...	...	...	...	1	1	1	1	2	...	1	3	203
3	South Thána do. ...	...	...	...	1	1	1	1	2	...	1	3	203
4	East Khándesh do. ...	...	...	...	1	...	1	2	2	...	1	3	183
5	West Khándesh do. ...	...	...	...	1	...	1	2	2	...	1	3	183
6	Násik do. ...	...	...	...	1	...	1	2	2	...	1	3	183
7	Ahmednagar do. ...	...	...	...	...	1	1	2	2	...	1	3	173
8	Poona do. ...	...	...	...	1	...	1	2	2	...	1	3	183
9	Sátára do. ...	...	...	...	1	...	1	2	2	...	1	3	183
10	Sholápur do. ...	...	...	...	...	1	1	2	1	...	1	3	158
11	Surat do. ...	...	...	...	1	...	1	2	2	...	1	3	183
12	Panch Mahál do. ...	...	...	...	...	1	1	2	1	...	1	3	158
13	7 Sub-Assistant Conservators, Sub-divisional	...	...	...	...	...	...	...	7	...	...	14	217
	Total ...	1	1	1	10	7	13	22	27	1	12	52	2,789

69. The total expenditure incurred upon forest establishments during the year has amounted to Rs. 4,53,218-1-5 :—

	Rs.	a.	p.
B. *I. a.*—Conservator's salary	18,000	0	0
B. *II. a.*—Conservator's travelling allowance ...	2,400	0	0
B. *I. b.*—Superior officers' salary	95,734	14	5
B. *II. b.*—Superior officers' travelling allowance ...	27,489	8	6
B. *I. c.*—Subordinate Protective Establishment salary .	2,46,901	13	7
B. *II. c.*—Subordinate Protective Establishment travelling allowance	13,924	12	8
B. *I. d.*—Office Establishments' salary	32,676	8	8
B. *II. d.*—Office Establishments' travelling allowance ...	12,199	4	3
A. *VIII. f.*—Cost of Temporary Establishment ...	3,891	3	4
Total ...	4,53,218	1	5

3)—GENERAL PROTECTION AND BREACHES OF FOREST LAWS.

70. The following table shows the number and result of prosecutions of forest offences in the year under report and in previous years, respectively :—

No.	Divisions.	1885-86.		1886-87.		Percentages of Failures.	
		Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1885-86.	1886-87
1	North Thána	18	11	42	10	61·1	23·8
2	South Thána	97	57	81	28	58·7	34·5
3	East Khándesh	46	13	25	9	28·2	36·
4	West Khándesh	44	16	53	21	36·3	39·6
5	Násik	35	8	150	18	22·8	12·
6	Ahmednagar	122	38	146	64	31·1	43·8
7	Poona	230	51	99	24	22·1	24·2
8	Sátára	42	17	87	71	40·4	81·7
9	Sholápur	36	21	88	25	58·3	28·4
10	Surat	24	...	4	2	...	50·
11	Panch Mahals	53	13	36	6	24·5	16·6
	Total ...	747	245	811	278	32·7	34·2

71. There were 57 cases, not disposed of, from last year at the beginning of this year. Of the 533 cases tried during the year, in respect of which convictions were obtained, 1,250 individuals were sentenced to punishment of different descriptions and degrees. The 278 cases acquitted affected 678 individuals, and at the close of the year 85 cases were standing over for completion of magisterial proceedings: they were distributed as under:—

South Thána	13 cases	Ahmednagar	14 cases.
East Khándesh	3 „	Poona	3 „
West Khándesh	38 „	Sátára	2 „
Násik	6 „	Sholápur	6 „

72. The percentage of failures in forest cases will always be high where the witnesses are chiefly fellow-villagers of the accused, who, in the interval between the discovery of the offence and the trial, are prone to be forgetful of the facts that came under their observation, and are found more ready to give evidence in favour of the accused than against him, and at variance with the account they originally gave of the transaction.

73. The forest offences in respect of which prosecutions have been instituted during the year, classified under the four different heads of crime prescribed by the Forest Department Code, appear as under :—

No.	Forest Division.	Character of Offences.				Remarks.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	
1	North Thána	...	41	.....	1	
2	South Thána	3	73	.....	5	
3	East Khándesh ...	10	9	2	2	
4	West Khándesh ...	4	24	55	6	
5	Násik	2	119	5	25	
6	Ahmednagar	...	33	74	31	
7	Poona	1	54	17	28	
8	Sátára	3	56	14	14	
9	Sholápur	...	9	55	24	
10	Surat	...	2	.....	2	
11	Panch Mahals... ...	...	35	.....	1	
	Total ..	23	455	222	139	

74. Of the 82 cases in the Ahmednagar Division, in respect of which convictions were obtained, the punishments awarded consisted of fines in 79 cases, and in imprisonment in 3 cases only.

75. In the 2 Thána forest divisions forest offences committed in "Protected Forests" and in lands provisionally notified under Section 4 of the Forest Act were dealt with under Section 43 of the Land Revenue Code by Assistant Collectors. The comparative result with last year is as under :—

No.	Forest Division.	1885-86.					1886-87.				
		Number of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	Number of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.
			Rs. a. p.			Rs. a. p.		Rs. a. p.			Rs. a. p.
1	North Thána ...	6	25 6 0	...	5	21 6 0	13	150 4 0	...	13	223 1 3
2	South Thána ...	112	214 4 8	...	...	.....	141	.....	...	141	484 3 6
	Total ...	118	239 10 8	...	5	21 6 0	154	150 4 0	...	154	707 4 9

76. A comparative statement showing the number of cases compromised under Section 67 of the Forest Act is given below, as directed in Government Resolution No. 3527 of the 2nd May 1884 in the Revenue Department :—

No.	Forest Division.	Taken into Court.		Compromised under Section 67 of Forest Act.		Total Number of Cases	
		1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
1	North Thána ...	18	42	39	23	57	65
2	South Thána ...	97	81	31	107	128	188
3	East Khándesh ...	46	23	144	117	190	140
4	West Khándesh ...	44	89	254	195	298	284
5	Násik	35	151	564	828	599	979
6	Ahmednagar ...	122	138	1,929	1,805	2,051	1,943
7	Poona	230	100	278	463	508	563
8	Sátára	42	87	67	54	109	141
9	Sholápur	36	88	461	625	497	713
10	Surat	24	4	4	10	28	14
11	Panch Mahals ...	53	36	56	78	109	114
	Total ...	747	839	3,827	4,305	4,574	5,144

77. The number of compounded cases has increased in the South Thána, East Khándesh, Násik, Poona, Sholápur, Surat, and Panch Maháls divisions, and has decreased in the other 4 divisions, but the greatest number of these cases appears again in the Ahmednagar Division. Mr. Wroughton, the Divisional Forest Officer, Poona, remarks :—

"It will be seen that, as ordered, the power of compounding has been fully availed of. But I regret to point out that the percentage of failures in prosecution cases is steadily increasing : in 1884-85 it was 18·4, in 1885-86 22·1, and now it has fallen to 24. The reason is not far to seek. The system of compounding offences is a great temptation to dishonesty in subordinates, who with ease can state to the accused that the offence has been compounded, and pocket the fine, but even without this it leads to a slipshod way of working up cases. The great object aimed at is to get the accused to confess, and agree to compound. I have seen it recorded by the Magistrate at Junnar that the members of a Panch, who had recorded that the accused confessed his guilt, stated before him that they only did so because it was clearly understood that the offences were to be compounded, and not prosecuted. The cases in question were a series of 6 or 7 in which influential men in the village had been in conspiration to cut and steal wood from the forest reserve of the village."

78. No doubt there are disadvantages and objectionable features in the system of compounding forest offences, but a great deal depends upon the way in which the section is worked. The Forest Act ignores intention. It is a forest offence to do anything that is punishable under the Act, or under any rule made under the Act; and a forest offence may be due to ignorance of fact, of law, or regulation, and not to malice. To such cases Section 67 should, the Conservator considers, be invariably applied, for a forest offence of any of these kinds is, from its nature or rather origin, a minor or trivial offence. Then, again, when forest produce of small value, in a forestry as well as marketable point of view, has been wilfully cut and appropriated at a long distance from the nearest Magistrate's Court—some forests are two or more days' journey distant—to take the detected offender, though his offence is neither trivial nor minor, to the Magistrate such a long journey, compelling witnesses to go also, and the forest guard, who detected the offender, to leave his "beat" for days together, is much to be deprecated, and Section 67 of the Forest Act provides a relief to all parties. The Conservator considers that the order requiring the Divisional Forest Officer to be consulted and his order obtained by the forest protective subordinates before a prosecution is entered in the case of a detected offender is not always worked correctly, and that forest prosecutions frequently break down on account of the delay entailed by a long correspondence. Section 52 of the Forest Act requires a report of seizure to be made to the Magistrate having jurisdiction to try the offence when there is reason to believe that a forest offence has been committed, and any property liable to confiscation has been seized. Such report should precede, the Conservator considers, the report to be made to the Divisional Forest Officer, and the latter can then order the case to be prosecuted, or otherwise disposed of.

79. Some detected offenders were released with warnings, as the assessed value of the property seized was considered to be so small as to render prosecution undesirable.

80. The protection of the forests against thefts of timber, &c., is very fair, except in the Thána District. Looking at the very large area of the "Reserved Forests," the very dense population of the districts in which the forests are, the number of prosecutions that occur in twelve months cannot be considered to be large. The condition that under the Forest Act a pass cannot be required of cart-loads of timber met in transport within forest limits greatly enhances the difficulty of protecting the forest estates, where as in the Thána District private lands growing trees are found to be intermingling with the State forest estates, and stolen wood from Government forests is removed under the name of timber from private lands; and with a numerically insufficient staff of forest guards it is not possible to extend efficient protection on all sides to the standing trees, the property of Government, in forest and other lands. Beats of 1,500 to 2,000 acres in size are too large for a single forest guard in the Thána divisions, where the Government tree property is all scattered about, and innumerable cart tracks traverse the forests in all directions. The forests near bandars in North Thána, such as of the Bassein Táluka, and the forests of Umbargaon on the frontier of

Daman territory are more exposed to plunder; while in South Thána the forests of the Kalyán, Murbád, Sháhápur, and Karjat are robbed much more than the forests of the Bhiwndi, Mokháda, and Khálápur ranges, which are at a distance from the railway line, and heavy thefts are unknown in them. A numerical increase of forest guards is required in these two divisions especially, for upon stipendiaries whose *raison dêtre* is forest conservancy, can alone dependence be placed for protecting the Government trees. A son of the police pátil of Wángni stole a quantity of teak timber from the Kalamboti Kusheoli forests of the Karjat Range, and conveyed it to the Wángni Railway Station under the name of timber from private lands, but he was caught at last, and was undergoing prosecution at the close of the year. With railway stations and with bandars in all directions, at each of which several timber-dealers' yards are located, where wood brought by villagers is purchased without inquiry as to how it has been obtained, and from where it has come, and is sent off to Bombay and Poona at once, and with a population of 90,000 wild tribes, such as Kathkaris, Thákurs, Varlis, whose subsistence is "Wood," and in addition to them at least half of the inhabitants of forest and other villages living upon carrying and carting at the season when agriculture does not demand their time and attention, the difficulties of protection against theft in the absence of a pass system are very great.

81. The number of cattle impounded in the several divisions during the year, under Section 69 of the Forest Act, for trespassing in closed portions of forest reservations was large in the Deccan divisions, as the following table shows:—

No.	Forest Division.	Cows and Bullocks.	Buffaloes.	Camels.	Horses.	Asses.	Sheep.	Goats.	Total.
1	North Thána ...	172	...	...	...	...	...	...	172
2	South Thána ...	70	4	...	...	...	...	...	74
3	East Khándesh ...	2,520	292	...	14	...	1,853	1,486	6,165
4	West Khándesh .	830	207	8	1	...	3,334	637	5,017
5	Násik	5,379	487	...	73	...	1,318	9,359	16,616
6	Ahmednagar ...	25,611	2,115	...	329	175	25,371	5,980	59,581
7	Poona	8,684	368	...	200	83	9,770	4,800	23,905
8	Sátára	4,403	662	...	70	1	3,366	1,026	9,528
9	Sholápur ...	9,524	1,090	...	88	46	4,982	669	16,399
10	Surat	55	33	...	...	...	...	...	88
11	Panch Mahals ...	16	89	...	...	...	332	856	1,293
	Total ...	57,264	5,347	8	775	305	50,326	24,813	1,38,838

82. Two beat guards were prosecuted by the Divisional Forest Officer of Ahmednagar for receiving bribes in connection with grazing in forests: one was convicted and punished, and the other acquitted; and 3 range forest officers, 2 round guards, and 19 beat guards were prosecuted by villagers for illegally impounding cattle for assault, &c., of which number 1 round guard and 4 beat guards were convicted. The round guard and 1 of the 3 beat guards have appealed.

83. 13,860 cattle found trespassing in the forest reserves of the Sholápur Division were released with a first warning, in accordance with the orders contained in Government Resolution No. 2437, dated 21st March 1885.

(*C*)—FOREST FIRES.

84. Fire-conservancy during the year shows a decided improvement in North Thána: in the Sálsette, Dáhánu, and Umbargaon ranges especially have the results been satisfactory. In Bassein fire traces were burnt as usual by the forest subordinates. In South Thána also is fire-conservancy improving: there were 201 fires reported during the year. In the Khándesh District fires prevailed to a slightly greater extent in the western division; in the eastern side there were 27 fires—one starting from Holkar's territory adjoining the Yával Sátpudás is responsible for burning 12,500 acres despite the efforts made to check and

extinguish it. In 7 cases in this division people who fired the forests were caught: 3 of the 7 cases were compounded, and the other 4 prosecuted, with the result that 1 was acquitted, 1 was fined Rs. 2, 1 received simple imprisonment for 8 days, and another rigorous imprisonment for one month. The area traversed by fire in the Násik Division has been double as much as that burnt last year; 3 ranges—Niphád, Chándvad and Málegaon—were entirely free from fires; the Niphád forests have been closed for some years, and have never been visited by fires. In the Ahmednagar Division 17 fires covered about twice as much ground as they did last year, but the proportion burnt is very small; one range only—Kopargaon—saw no forest fire. In the Sátára Division 2,577 acres only were burnt, and nearly 2,374 of this occurred in one range—Pátan. In the Sholápur Division the forest fires have been on the increase, but only 24 reserves were visited by them, and in the Bársi, Málsiras, and Pandharpur ranges no fires occurred. In the Surat Division a considerable portion of the forests in the Mándvi Range and in the Dángs was traversed by fire. In the Panch Maháls a marked improvement in fire-conservancy is noticeable in all the ranges save Hálol, where the forests round and up the slopes of Pavagad hill were burnt.

85. The following statement shows the forest areas in the different divisions, the portion which has been traversed by fire during the year, and the percentage the latter bears to the former:—

No.	Divisions.	Forest Acreage.	Acreage burned.	Percentage burned.
1	North Thána	3,73,993	25,803	6·9
2	South Thána	3,95,803	16,952	4·3
3	East Khándesh	4,93,101	21,028	4·2
4	West Khándesh	7,66,237	42,496	5·5
5	Násik	7,10,949	12,210	1·7
6	Ahmednagar	5,44,048	3,315	0·6
7	Poona	4,62,101	1,691	0·3
8	Sátára	4,22,160	2,577	0·6
9	Sholápur	1,49,065	2,135	1·4
10	Surat	6,20,284	33,347	5·3
11	Panch Maháls	2,06,957	14,809	7·1
	Total ...	51,44,698	1,76,363	3·4

86. On the whole, fire-conservancy in the circle is extremely satisfactory. In the Deccan forests it is practically perfect, and no smaller percentage will be found anywhere. In the Konkan, improvement is visible, and also in the Panch Maháls. The Khándesh forests and the Dángs and Mándvi are about the worst examples, but there are special reasons which make fire-conservancy difficult in these tracts. No special establishments are employed upon fire-conservancy, as no special establishments could in the circumstances of the forests be employed with any advantage. A sustained improvement in all branches of forest conservancy and works ought to be the aim of the Forest Department in India; and this can, as far as the forests of the Northern Circle are concerned, be best secured, both as regards economy and results beneficial to forests, by permanent establishments being taught how to perform the different duties of protection &c., and by inducing villagers to co-operate with forest subordinates in preserving forests against visitations by fire and in extinguishing fires when they do occur: in this view, rewards are given to villagers for the labour provided and the ready assistance tendered by them in burning fire traces and in fighting against and putting out fires. The expenditure in the year on these accounts has amounted to Rs. 470-7-9.

(*D*)—GRAZING AND FODDER GRASS.

87. The grass and grazing revenues of the forests of the Northern Circle during the period since the famine and since the forests have been established under the Forest Act have shown a steady increase, and this result has been a

marked feature in the history of the forest administration. The following gives a return of the revenue from this source for the past nine years :—

1878-79	...	Rs. 42,629
1879-80	...	„ 64,613
1880-81	...	„ 1,00,443
1881-82	...	„ 1,41,765
1882-83	...	„ 1,64,444
1883-84	...	„ 1,97,963
1884-85	...	„ 2,25,853
1885-86	...	„ 2,32,650
1886-87	...	„ 2,37,126

88. The revenue from this source compares, as under, with the figures of the previous year :—

No.	Divisions.	1885-86.			1886-87.			Remarks.
		Rs.	a.	p.	Rs.	a.	p.	
1	North Thána	8,041	5	9	9,978	8	0	
2	South Thána	2,755	2	3	2,316	5	8	
3	East Khándesh	22,780	7	0	26,953	7	6	
4	West Khándesh	36,396	5	6	33,411	0	0	
5	Násik	21,004	13	5	37,831	5	0	
6	Ahmednagar	19,012	14	6	27,199	12	11	
7	Poona	61,082	5	0	47,707	11	9	
8	Sátára	36,841	4	6	37,156	8	0	
9	Sholápur	14,867	14	0	5,732	2	9	
10	Surat	1,759	11	6	1,274	15	0	
11	Panch Maháls	8,107	10	0	7,564	1	0	
	Total ...	2,32,649	13	5	2,37,125	13	7	

89. The rules contained in Government Resolution No. 7467, dated 15th September 1885, Revenue Department, given in paragraph 90 of the administration report of last year, were worked up to as far as possible. In the Thána divisions there is very little restriction as to grazing or the cutting of grass by forest villagers; professional graziers from above Ghâts and from Bombay who come into the Thána forests to graze their cattle are charged fees, and the grass of some specially valuable grass-producing forest tracts, where it has hitherto been customary to do so, is sold by auction. In the North Thána Division the revenue from this source has continued to increase, and for the year under report it appears at Rs. 9,978 against Rs. 8,041 of the previous year. There is a wealth of grass in the Thána forests: during the great Deccan famine the Conservator of Forests personally directed the pressing in bales of hay obtained from the Thána forests, which was then sent up by railway to the Sholápur Districts to feed cattle employed in the circulation of grain conveyed from railway stations to distant famine-stricken villages, and in this way human life was saved. But the grass crop in the forests is much wasted, the villagers take what they want for the ráb of their fields, and the residue gets burnt, until at the end of the hot weather the price of grass goes up to Rs. 10 and 13 per 1,000 bundles. In Khándesh free grazing is allowed in the North Tápti Privilege Code, and Dhulia and Sindkheda are the only ranges in which fees are paid in the West Khándesh Division, but the revenue has increased here, as well as in the other divisions where free grazing does not prevail. In the Násik Division the sale of grass declined from Rs. 9,505 to Rs. 9,032; but, on the other hand, fees produced an increased revenue, free grazing was given to all village cattle, and only outside cattle belonging to professional graziers paid fees. The auction-sales of grass in the Ahmednagar Forest Division produced a higher revenue this year, and the fees also exceeded the collections, under this head, of the year before, thus evidencing that the villagers who were very hostile to the fee system at its introduction are coming round. Grazing was permitted from 1st June to 31st March in this division. In the Poona Division the receipts have fallen considerably, a very large proportion of the forest area was open to free grazing, and the Divisional Forest Officer reports that Dhangars and others take advantage of the free-grazing areas to evade payment of fees on their cattle. The value of the

grass supplied to the Commissariat Department in this Division, for which no credit by book adjustment is received, amounts to Rs. 13,555, and the value of free grazing conceded to village cattle is assessed at Rs. 41,500. Grazing working plans, in accordance with the orders of Government contained in the several resolutions upon demarcations and settlements of the forests of different tálukás in the Sátára Collectorate, were compiled by the Divisional Forest Officer and sanctioned by the Collector. The total revenue for the year was greater than for the preceding year. The receipts were collected by the village officers, to whom a percentage in remuneration of their work has to be paid. New rules were passed in Government Resolution No. 1511 of the 11th March 1887 for the collection of forest revenue by village officers and for the payment of remuneration to them, which provide as under :—

I.—When the agency of village officers is in future employed in the collection of forest revenue they shall be remunerated by a deduction from the gross revenue collected at the time it is made over by them to forest officers, and at no other time.

Sums paid for grass reserves, &c., and not passing necessarily through the village books should not carry remuneration to village officers.

II.—The rate of remuneration payable shall be 6 pies in the rupee to the pátil and 9 pies in the rupee to the kulkarni. In calculating the amount of remuneration due to any village officer, fractions of a rupee above eight annas shall be regarded as one rupee; all others shall be neglected.

III.—Village officers shall issue passes or grant receipts for revenue received from pass-books (in counterfoil, each leaf of which shall be numbered consecutively,) supplied to them by the Forest Department after entering the particulars in the counterfoils. When the passes are issued, the village officers shall take the signature of the persons to whom passes are issued on the counterfoils.

IV.—The collections made by the village officer shall be accounted for to the forest officer when on his rounds, or when the village officer calls on the forest officer for the necessary chalans. The village officer may accumulate his collections for a month, but not for a longer time. The forest officer shall receive the money due from the village officer, or give to the village officer a chalan for the full amount entered in the counterfoils, less the remuneration due to the village officer.

V.—The forest officer, on receiving the amount or giving the chalan, shall obtain a receipt from the village officer for the remuneration deducted, in the following form:—

Receipt for remuneration due for the collection of Forest Revenue by the Officers of village ,Táluka ,District ,from

188 *to* 188 .

Name of Village.	Date of Collection.	Gross Amount collected.	Remuneration due.		Net Amount to be paid into Treasury.	Remarks.
			Rate.	Amount.		

Received Rs.

Date Pátil.

Received Rs. Kulkarni.

Date

VI.—If in any village any difficulty be felt in obtaining the countersignature of the officers of the Forest Department, the Conservator may, after satisfying himself of the difficulty, authorise the Treasury or Sub-Treasury Officer concerned to receive forest revenue collected by village officers without the countersignature on the chalan by officers of the Forest Department. The officer receiving the money should see that the calculation of the remuneration is correct, and should send the chalan and the receipt for remuneration to the Range Forest Officer, in whose accounts the receipts of such village are accounted for.

VII.—In the accounts kept by the Forest Department the gross amount of revenue collected shall be credited, and the remuneration paid be debited, to the appropriate heads of account.

VIII.—At the end of each month the Divisional Forest Officer shall, as prescribed in Section 143 of the Forest Code, draw a cheque for the amount of remuneration paid by himself and his subordinates during the month, to be credited at the Treasury by transfer to Forest Remittances.

IX.— When revenue collected by village officers is refunded, the remuneration paid to the village officers for its collection need not be recovered, unless the village officers are to blame in collecting it.

X.—The counterfoils of all exhausted pass-books shall be made over by the village officers to the Forest Department for record in that department.

XI.—Forest officers shall, occasionally, on their rounds, collect, if possible, passes granted by village officers, and compare them with the corresponding counterfoils.

90. The grazing fees in the Sholápur Division have not produced so large a revenue as was anticipated. Cattle were admitted throughout the forests of the Surat Division on the fee system. In the Panch Mahals Division Rs. 2,876-7-0 were realised by sale of grass for cutting and removal, and Rs. 4,687-10-0 were obtained by the issue of grazing permits to professional graziers and cattle-breeders throughout the district. No fees of any kind were taken from ordinary rayats on account of grazing throughout the year. Free grazing in forests causes loss of revenue, both directly and indirectly, for the value of the pasturage enjoyed by the privileged cattle is lost, and then a number of non-privileged cattle evade payment of fees under cover of free cattle. Under Rule 7 of the grazing rules forest guards are prohibited from interfering with the herds, except with cattle trespassing into closed areas, and consequently the check and supervision over cattle-grazing in the portions of the forests opened to grazing must be practically *nil*, for village officers have their own professional occupations to claim their time and attention, the pátil as well as the kulkarni has his fields and his other business to look after, and cannot afford the time and attention, even if he possessed the inclination, to go into the open forest compartments daily and hourly to ascertain whether irregularity with reference to cattle-feeding was going on. The village officer may possibly be able to know at sight all the privileged cattle of the village and to recognize cattle that ought to pay fees, but this is extremely doubtful : any how the forest guard is not so well acquainted with the agricultural cattle of the villagers as to be able to distinguish them and to detect trespassers in the midst of numbers of free cattle ; and, unless he is allowed to interfere with the herds, to require the production of free permits, and fee permits, illicit grazing must prevail. It is certainly the duty of the Forest Department, seeing what are the circumstances surrounding our forest reservations, to provide the largest extent of pasturage that can with proper regard to the interests of forestry be provided, and an enormous area can with comparative safety be opened to grazing in all the divisions so long as a limitation of the number of cattle to be entered upon particular areas is enforced, and a grazing season is observed. It has been proved conclusively that the improvement of the grass crop upon the hills of the Deccan, in quality as well as yield, is the natural consequence of the reboisement of the hills, and that a good and abundant growth of grass can in no other way be secured than by bringing in the first place soil and moisture upon the slopes.

(*E*)—FENCING.

91. In the Máhím Range of the North Thána Division the wire fencing round the Wankas, Kamare, and Khaire reserves was put into efficient condition at a cost of Rs. 879. In the Sálsette Range the forests of Persick and Khandevli had euphorbia planted upon their lower boundaries : 2,267 and 1,040 running feet of hedge were thus erected, costing Rs. 22-3-0 and 19-4-0 respectively. In the Ahmednagar Division 25,163 running feet of hedging of sabri with bámbus planted in places on the line were put down upon the boundaries of reserves in 9 ranges at a cost of Rs. 144-7-3 ; and in the Sátára Division in 7 ranges 50,015 feet of fencing has been planted at a cost of Rs. 154-11-9. The Gundeva Reserved Forest in the Surat Division has had euphorbia cuttings put down upon its boundaries.

(F)—NATURAL REPRODUCTION.

92. In the Konkan the spontaneous growth of vegetation is very vigorous. In the Khairni Patte reserves of the Sálsette Táluka of North Thána, khair seedlings are very noticeable in all directions ; and also teak saplings, which have grown up within the last few years, are very general. The Divisional Forest Officer, East Khándesh, has observed a fact often brought to notice, that although nearly all the seedlings which naturally appear during the rains apparently wither and die when three or four months old, so that very few are to be seen in the hot weather, still their roots survive and send up fresh shoots in the next rains. In many places he has seen plants two or three years old which their freshy appearance indicate to have grown up in this way, though hardly any first year seedlings were visible. The Divisional Forest Officer, Násik, reports :—

"The general improvement in the state of the hills and lands in our charge has been commented upon very frequently by many people whom I have come across in my travels during the past season. This is very noticeable in the forests of the Yeola, Nándgaon, and Málegaon ranges ; again in the Ghát forests and in those below the Ghats the forests are carpeted with a strong growth of seedlings, the seeds of which Nature has herself sown. In the Peint Range the difference between the growth of recent and of former years is most marked. The latter consists of trees hollow, crooked; and the former of beautiful well-grown poles."

93. The Divisional Forest Officer of Ahmednagar reports of the visible increase of forest growth in all the portions of the hill reservations which are closed against cattle, and that he has received testimony of the village officers as to the increase of the forest vegetation on the hill slopes of the range of hills bordering the Nagar Táluka on the north. Mr. Wroughton, the Divisional Forest Officer of Poona, reports, with the Deccan system of broad-cast plantation by forest guards it is difficult to distinguish between natural and artificial reproduction.

"I may record, however, that from many independent sources I have had independent testimony to the improvement of the reserves of this division. I may mention, amongst others, two Native members of the Forest Commission who expressed to me their astonishment at the improvement of the vegetation on the Khandála hills. Mr. Sheppard, Commissioner, N. D., who noticed to me the improvement of the growth on the Sakur Pathar. A military officer, who remarked on the improved look of the hills between Poona and Purandhar. The villagers of Lohogad informed me that, owing to the spreading of forest growth on the hill slopes, the difficulty of turning out tigers and other wild animals for sportsmen from Poona and Bombay to shoot in their village had greatly increased. In fact, there can be no doubt of the very marked improvement everywhere in the past few years."

94. The Divisional Forest Officer, Sholápur reports that the bare hills in many places are gradually beginning to show a little vegetation of tarvad bushes (Cassia auriculata) and thorns, *but which all help the work of disintegrating the soil and preparing the way for timber trees.* The hills in the Bársi Táluka show in many places a steadily increasing vegetation climbing up their slopes on the least exposed faces, and in a few years' time these hills will present a very different appearance. The Divisional Forest Officer, Panch Mahals, states that natural reproduction is fair, but would be excellent if grazing were restricted, which has greatly injured the forests of the Godhra Táluka in the past.

95. There is no longer room for doubt that the Forest Department can by simple and inexpensive measures restore timber to all the bare hills of the Deccan and convert them into reservoirs for impounding the rain that falls upon the hills. That these hills will grow timber of large size, is evidenced by the presence of sacred groves which have remained here and there, superstition having guarded them against the desolating axe. But there is a new difficulty appearing in the path of reboisement, *viz.*, a demand for thorns for fencing purposes, and claims made by some Revenue Officers to have the power of granting thorns to applicants from the hill sides. To fence in an acre field with thorns necessitates the stripping of several acres of semi-denuded hills undergoing reboisement, while the thorns dry up and rot away soon after they are put down, high winds sweeping over the Deccan plains blow them away, they are appropriated for firewood, and the dry thorn fencing of a field has to be replenished before the crop it was intended to protect has been harvested. The thorns in reservations under treatment for reboisement create soil, they impound the rainfall, they nurse seedlings to produce timber and firewood, and they have a climatic value upon the

hill sides,—all these properties are beneficial to agriculture, and they serve in the highest degree the interests of cultivation when they are to be found growing full of vigorous life upon the drainage slopes on the higher levels of the country. There are forests from which the removal of thorns does good, where the thorns have worked their capable purpose, and are required to give room to better growth.

(*G*)—ARTIFICIAL REPRODUCTION.

96. In the North Thána Division plantations are made upon open spaces inside the forest reservations. Lands which having been under cultivation at one time have been acquired for forests in virtue of their position inside forest reserves. 105 acres were newly planted during the year, which with the 2,038 acres of similar plantation at the close of last year makes 2,143 acres in all. Slips of the bhendi tree (Thespesia populnea) have been put down near the sea-coast, and seedlings of all kinds brought from neighbouring forests, where they had naturally come up, have been planted out both by forest guards and by hired labour. In the South Thána Division 271 acres were thus planted during the year. The hill reserves in Khándesh have been broad-casted, and on the plains lands have been ploughed and sown, and in places pits have been made and seeds sown in them. In the Násik Division the plantations are reported to be growing up so vigorously as to have become coverts for game of all sorts, which largely resorts to them. In the Dongargaon plantation in the Ahmednagar Division two dams, which were built across a stream to impound water for irrigating the area where exotics are grown and cultural experiments made, were unfortunately breached by the rain in the month of May, which came down suddenly before the masonry had set, and were able to bear the strain. The following table shows the plantation work carried out in one division—Ahmednagar—and is a sample of what is being done. 102½ khandis of seeds were collected by the forest guards.

No.	Ranges.	By Hired Labour.				By Forest Guards.			
		Ploughing whole Area.	Ploughing at 12 feet distance.	Pits at 5 feet distances.	Cost.	Area.	Pits.	Transplants.	Broad cast.
		Acres.	Acres.	Acres.	Rs. a. p.				
1	Nagar	12	...	85½	123 10 6	59	11,200	...	138
2	Párner	4½	...	...	57 2 3	48	16,000	1,000	330
3	Shrígonda ...	...	74⅓	...	40 11 0	416½	15,850	1,950	...
4	Karjat	21⅕	...	41¼	44 14 0	10	9,200	2,675	335
5	Jámkhed ...	...	80½	48½	35 0 0	46½	11,000	2,200	2,393⅓
6	Shevgaon ...	...	...	24	10 0 0	490	10,600	2,200	193
7	Nevása ...	3	...	...	49 12 0	10	5,000	...	200
8	Ráhuri	1	...	...	8 4 0	11	7,200	...	2,750
9	Kopargaon ...	...	...	86¾	48 11 3	14	7,000	1,400	210
10	Sangamner ...	...	15	40 Broad cast.	18 13 3	223	19,005	20	3,902
11	Akola	...	...	263½	24 12 0	95	24,600	5,025	16,036
	Total ...	41 7/10	169 5/6	589½	461 10 3	1,423	1,37,255	16,470	26,487½

97. In the Poona Division the forest guards made 35,625 pits, and sowed seeds in them upon the hill sides; the seed of the hirda tree (Terminalia chebula) was sown to a large extent, every forest guard sowing 100 pits. By hired labour 1,999½ acres were ploughed and sown, and 89,577 acres were pitted over and sown at a total cost of Rs. 977-3-0.

98. 784 acres of fresh ground were planted in the Sátára Division by hired labour in 15 forest reserves situated in 9 ranges, and 19,275 acres were sown broadcast and otherwise by forest guards. 7,933 bámbus were planted, out of which 20 per cent. were said to be surviving at the end of the hot weather, and the number of seedlings alone is given at 3,25,495; but reliance cannot be placed upon this enumeration, and the Conservator is of opinion that statements of the kinds are generally inaccurate, and should be avoided. Teak transplants

put down upon the Mahábaleshvàr plateau have not succeeded. In the Sholápur Division 1,001$\frac{2}{40}$ acres were treated by hired labour under the systems of full-ploughing, furrow-ploughing, pitting or dibbling, drilling. The cost of carriage of seeds from other parts of the country amounted to Rs. 225, and the cost of labour to Rs. 1,141-14-0. In addition thereto, 85 forest guards planted in pits over 181 acres and broad-casted 4,521 acres. No extensive plantations are to be found in the two Gujarát divisions. In the Surat Division 1,302 acres were planted up inside the reserves at a cost of about 3½ annas the acre, and in the Panch Mahál 148 acres of blanks were planted by forest guards.

99. The results of artificial plantations are not everywhere the same. In places where the soil is good, and the rainfall seasonable, success has been highly satisfactory, while in other places failure has to be chronicled ; but the success or otherwise of such plantation works can only be realised after a period of years, and is much dependent upon the treatment the lands receive subsequently to their planting.

100. There is nothing interesting to mention regarding experiments with *exotics*.

101. The divi-divi, carob, Pithecolobium saman, varieties of eucalypti, Grevillea robusta, mahogany trees, &c., which had established themselves in former years, are growing well. Some mahogany seed received during the year was experimented with ; and while the quantity sown in some divisions germinated only to die ; in others—Násik for choice—seedlings are doing well. The total expenditure of the circle under Plantations A *VIII* (*d*) amounts to Rs. 7,461-3-0.

(*H*)—COMMUNICATIONS AND BUILDINGS.

(*a*)—Roads and Bridges.

102. There are several reasons why no great works by the Forest Department in the construction of roads and bridges have to be recorded. In the first place, this Presidency has, since it has come under British rule, been opened out in all directions by roads, new roads have been constructed from year to year by the Public Works Department and the Local Funds Department to feed railway stations, bandars of export to connect centres of trade and to facilitate commerce ; and, possibly, in the matter of roads the Bombay Presidency is in the forefront of such civilization in the British Empire.

103. Then, again, cart tracks abound in all directions, traversing forests and making their remotest spots accessible. Of course there are forests and portions of forests not yet approachable by wheeled carriage, but the time for remedying this defect has still to come. The existing cart tracks serve all ordinary purposes of forest exploitation ; they might be converted into metalled roads at considerable cost, but the advantage of this being done upon any extended scale is questionable, for the cost of annual repairs in the country of a heavy rainfall would be a considerable item in the budget, while there might not be a proportionate increase of receipts by the improved communication. Further, one-half of the surplus revenue of the Forest Department is given to the Provincial Services budget, at the expense of which many miles of roads, which are of use to the Forest Department, are constructed by officers of the Public Works Department. Lastly, Divisional Forest Officers have their attention and time fully employed in managing the ordinary business of their forests without undertaking work which is not altogether in the regular groove of their professional education or business. And, however strong their desire may be to construct roads, the fact remains that forest budget sanctions are not generally lavish of funds ; indeed, it is only with great care and supervision that the expenditure incidental to the protection of the forests, to organization, to plantations, to felling and exploitation of material to produce revenue is kept within the sanctioned limits.

104. In the Thána Division the road leading up to Tungár hill has been repaired departmentally, and a cart road has been made to the forest bungalow at Párol, in the Bassein Range. And a road, 1 mile and 1,220 feet in length, over the Satevli Khind has been constructed by the Public Works Department, at the instance of the forest officers, to open out the forests of the south-western portion of the Bassein Range to a railway station, to bandars of export, and to

coast villages; and a survey has been made by the Executive Engineer of Thána, also at the instance of forest officers, to carry a road from Váda, through the Mokháda Peta up the Western Ghâts, into the Igatpuri Táluka of the Násik Collectorate. This road will traverse rich and valuable forests. In South Thána the road from Kalyán Station towards the Málsej Ghát was under construction by the Public Works Department, and will be of use for the carriage of forest produce, and a project is under discussion for extending the Dáhánu-Jawhár road to Mokháda. In the Ahmednagar Division the Jaolé-Báleshvar forest road was repaired. In the Dángs Rs. 361-15-7 were expended upon road repairs. In the Sátára Division Rs. 211-4-6 were expended in rasing off the difficult places upon a forest cart track from Karád to Kálgaon, and making it a good road for timber-laden carts.

(b)—Houses and Buildings.

105. The construction of office accommodation for range forest officers attached to the Mámlatdárs' kacheris has been carried on year after year by the Public Works Department, at the cost of the Provincial Services budget, at the instance of the Forest Department. During the year of report, offices have been provided for 20 ranges, and the following table shows the progress made and remaining to be made in the several divisions at the end of the year :—

No.	Division.	Number of Ranges.	Ranges provided with offices.	Ranges remaining to be provided.
1	North Thána	6	5	1
2	South Thána	8	8	...
3	East Khándesh	13	8	5
4	West Khándesh	10	7	3
5	Násik	14	5	9
6	Ahmednagar	11	8	3
7	Poona	11	6	5
8	Sátára	14	10	4
9	Sholápur	7	3	4
10	Surat	6	2	4
11	Panch Mahâls	5	5	...
	Total ...	105	67	38

106. Houses have been built for forest guards in several directions, in order to provide them with accommodation at Government expense, and to render them independent of villagers for lodging. This scheme would be more effective, than it can be, if the forest guards' beats were small enough to allow the men to visit their forests and return to their huts at night, but unfortunately such is not the case. Taking the Kalyán Range of South Thána as an example, it will be found that this range is divided into 28 beats, and the number of villages contained in a beat are 2, 4, 5, 6, 7, 8, 10, 11, 13, 17, 25, 29, 45 in respective cases. A forest station has 4 rooms and a forest post has 3 rooms, which are intended for the accommodation of round guards and the range forest officers on tour. In the North Thána Division 38 forest stations and 82 forest posts were built during the year, and in South Thána 62 forest posts at a cost of Rs. 620. In the Ahmednagar Division a forest house for accommodating the forest guards and storing hirda was built in the Panchnai forest at a cost of Rs. 86-9-6. In the Panch Mahâls 17 forest stations were built, consisting of 4 huts, 14′ × 14,′ placed at the four corners of an enclosure 100 feet square. Náka depôt houses and forest rest-houses in different divisions have been repaired as required.

107. The expenditure upon communications and buildings for the year amounts to Rs. 5,859-4-9 :—

	Rs.	a.	p.
a Roads and bridges	597	11	2
b Houses	5,254	9	7
c Other works	7	0	0

(I)—CUTTING OF CREEPERS, REMOVAL OF INFERIOR SPECIES, AND EARLY THINNINGS.

108. The eradication of prickly pear (Opuntia dillenia) is carried on by forest guards in the bábul reserves in the plains of the Deccan, where it is of fresh appearance and in small quantities. But in several of the reserves the prickly pear has grown and extended so in past years that it has become the principal species, and its eradication is a very desirable performance. Upwards of Rs. 400 were expended in the Poona Division in cutting it down and destroying it from the Gozubari and other reserves. In the same way the prickly pear was removed to a certain extent from the Khandála and Tásgaon Reserved Forests of the Sátára Division at a cost of Rs. 124-3-0, and a small expenditure was likewise incurred in the Sholápur Division for like purpose.

CHAPTER IV.

YIELD AND WORKING.

1.—DEPARTMENTAL OPERATIONS.

(a)—TIMBER.

North Thána Division.

109. The timber felled departmentally and sold in lump, the produce of each forest, separately by auction or tender to the trade appears in the following statement:—

No.	Range.	Number of Trees felled.	Yield.		Cost.			Receipts.			Remarks.
			Timber Pieces.	Firewood (Carts).							
	Teak Fellings.				Rs.	a.	p.	Rs.	a.	p.	
1	Sálsette	3,000	4,694	298	1,142	7	10	5,835	4	0	
2	Bassein	7,751	12,361	825	1,619	2	4	9,692	15	3	
3	Váda	...	...	...	.....			.....			
4	Máhím	11,457	16,148	1,875	2,222	7	2	10,204	8	0	
5	Dáhánu	18,710	24,837	2,723	2,725	8	0	21,767	14	0	
6	Umbargaon	7,154	8,845	531	1,724	11	0	7,847	4	6	
	Total ...	48,072	66,885	6,252	9,434	4	4	55,347	13	9	
	Ain, Khair, Tivas, &c., Fellings.										
1	Bassein	1,500	2,275	200	408	14	0	1,000	0	0	
2	Máhím	4,000	4,599	440	767	12	9	4,445	0	0	
3	Dáhánu	2,143	1,947	412	626	12	3	2,726	0	0	
	Total ...	7,643	8,821	1,052	1,803	7	0	8,171	0	0	

110. Firewood has been included in the above, as it consisted of the crown branches, loppings, and stumps of the timber. About 3,500 cart-loads of it were sold to villagers residing on the coast for home consumption at 8 annas a cart-load, and it was taken away on permits. The villagers appreciate this system of sale, and it has advantages for the department, in so far as it keeps people out of the forests who would otherwise be searching for dead-wood, and would be aiding in its manufacture.

111. Retail auction sales of timber, made with a view of placing facilities in the way of villagers for supplying their wants in building and other material, were not generally successful. At some of the sales the attendance of purchasers was good, and the bidding brisk, but at others, in the Máhím and Dáhánu ranges, there was no demand at all, and the material had to be sold subsequently for the trade.

112. The following is an abstract of the quantities of timber sold and of the financial results :—

No.	Ranges.	Number of Coupes.	Timber. Teak.	Timber. Jungle-wood.	Cost. Rs. a. p.	Receipts. Rs. a. p.	Remarks.
1	Sálsette ...	3	4,383	284	1,142 7 10	5,589 4 0	
2	Bassein ...	3	8,117	...	1,091 14 4	6,190 15 3	
3	Máhím ...	5	9,949	2,049	1,663 14 11	8,107 0 0	All but 386 pieces sold in lump.
4	Dáhánu ...	3	6,623	...	1,036 1 7	3,432 14 0	Do. 556 do.
5	Umbargaon ...	3	8,845	...	1,724 11 0	9,545 2 6	1,414 pieces sold in lump for Rs. 2,255.
	Total ...	17	37,917	2,333	6,659 1 8	32,865 3 9	

Firewood fellings were made to the extent shown :—

No.	Ranges.	Number of Coupes.	Number of Trees.	Yield. Timber Pieces.	Yield. Fire-wood.	Cost. Rs. a. p.	Receipts. Rs. a. p.	Remarks.
1	Sálsette	1	4,321	78	2,735	1,699 0 6	1,710 0 0	
2	Bassein	4	20,596	547	8,111	3,200 11 2	3,916 4 0	
3	Máhím	4	6,380	...	2,051	957 15 6	2,822 0 0	
4	Dáhánu	2	8,423	...	2,340	495 0 0	1,601 4 0	
	Total ...	11	39,720	625	15,237	6,352 11 2	10,049 8 0	

113. All the firewood in the Bassein Range was felled for supply to sugar-boilers; the material was brought outside the coupes and stacked, and then the cartmen were allowed to remove it on permits. The sugar-boilers removed all the best wood in 1,285 large and 97 small carts containing about 3,500 khandis, and then left the remainder, which they would not take, to be sold to timber-dealers. These retail sales of firewood are very unprofitable; they give a great deal of trouble, and interfere seriously with private trade. The net profit in Sálsette has amounted to Rs. 10-15-6 and in Bassein to Rs. 715-8-10, but the cost of supervision has not been taken into account.

South Thána Division.

114. The sales were made by auction or tender in lump and in auction by lots. The prices realized were very poor compared with former years. The following is the financial result :—

No.	Ranges.	Number of Trees.	Cost. Rs. a. p.	Sale Results. Rs. a. p.	Remarks.
1	Bhiwndi	8,000	1,400 0 0	5,546 0 0	
2	Shábápur...	16,000	2,927 0 0	12,193 0 0	
3	Kinowli	8,000	1,343 0 0	3,979 0 0	
4	Mokháda...	4,000	820 0 0	3,109 0 0	
5	Kalyán	12,000	1,766 0 0	4,754 0 0	
6	Murbád	12,000	1,782 0 0	3,972 0 0	4,000 trees remained unsold.
7	Karjat	12,000	1,815 0 0	6,093 0 0	
8	Khálápur...	8,000	1,500 0 0	2,453 0 0	
	Total ...	80,000	13,353 0 0	42,099 0 0	

115. The rates of cost of felling, bringing out to the forest depôt, and stacking varied from Rs. 14-11-0 to Rs. 20-8-0 per 100 trees, and the selling rates from Rs. 30 to Rs. 77 per 100 trees. The branches and stumps of the above trees produced 8,798 khandis of firewood locally known as kita and 4,002 khandis of vishtár (big-junks), and these sold for Rs. 8,970.

East Khándesh Division.

No.	Ránges.	Timber Pieces.			Cost.			Receipts.		
		Teak.	Jungle-wood.	Firewood.						
				Khds.	Rs.	a.	p.	Rs.	a.	p.
1	Chopda	15,014	...	...	453	0	0	2,561	0	0
2	Jámner	10,000	...	...	302	0	0	2,927	12	0
3	Yával	5,050	...	...	75	12	0	1,111	0	0
4	Ráver	...	500	...	18	12	0	152	0	0
5	Bhusával	...	...	1,500	401	7	6	1,250	0	0
6	Chálisgaon	...	...	990	301	14	0	306	0	0
7	Edalabad	...	...	2,000	625	0	0	1,000	0	0
8	Jalgaon	...	...	1,000	322	11	6	1,155	0	0
9	Ráver	...	...	500	145	2	0	405	0	0
	Total ...	30,064	500	5,990	2,645	11	0	10,867	12	0

Prices were not good.

West Khándesh Division.

No.	Ranges.	Number of Trees.	Yield.		Cost.			Receipts.			Remarks.
			Timber Pieces.	Fire-wood.							
					Rs.	a.	p.	Rs.	a.	p.	
1	Nandurbár ...	2,281	5,003	...	180	5	6	1,054	8	0	434 pieces unsold.
2	Navápur ...	8,160	15,205	...	719	0	0	4,443	13	7	
3	Nizámpur ...	421	2,160	...	49	15	0	186	8	0	
4	Pimpalner ...	101	1,000	10	30	0	0	493	10	0	
5	Sháháda... ...	48,348	4,065	807	765	1	0	1,730	0	0	230 khandis unsold.
6	Shirpur... ...	7,300	10,000	494	445	8	9	2,095	0	0	650 pieces and 494 khandis unsold.
7	Dhulia	4,132	...	2,000	500	0	0	2,610	0	0	300 khandis unsold.
8	Sindkheda ...	1,261	...	300	72	3	0	.....			
	Total ...	72,004	37,433	3,611	2,762	1	3	12,613	7	7	

116. The timber was composed of teak, tivas, and junglewood. There were 12,621 pieces in stock at the commencement of the year; 10,991 of these were sold during the year. It will be seen that a large quantity of firewood remained unsold; but the 2,554 khandis, which were on hand at the commencement of the year, sold for Rs. 709-2-0. The concession of very liberal privileges of cutting and taking free of charge comes in the way of sales. So long as people can obtain their supplies of timber and firewood free direct from the forests, or second hand at nominal cost, they will never resort to the forest and other departmental depôts to buy.

117. In the Násik Division the departmental operations were very extensive, as below stated :—

No.	Range.	Yield.		Cost.			Receipts.			Remarks.
		Timber Pieces.	Firewood.	Rs.	a.	p.	Rs.	a.	p.	
1	Násik	139	800	204	7	6	386	0	0	
2	Igatpuri	10,770	173½	361	10	10	2,535	0	0	
3	Sinnar	3,104	70	104	14	6	849	0	0	
4	Dindori	32,800	541	1,209	15	7	9,668	5	6	
5	Niphád	...	337½	93	1	6	281	12	6	
6	Chándvad	5,206	...	107	12	0	2,218	7	0	
7	Báglán	6,532	...	183	11	10	1,183	12	0	
8	Kalvan	20,690	1	549	13	9	3,217	14	0	
9	Peint	51,198	...	3,184	14	1	17,876	10	11	
10	Nándgaon	...	509	127	4	0	572	10	0	
11	Málegaon	654	506	136	2	6	412	13	9	
	Total ...	1,81,093	2,938	6,263	12	1	39,202	15	8	

118. The quantity of timber exploited was not so much as of last year, but more firewood was put into the market. In the Násik, Dindori, Niphád, Málegaon, and Nándgaon ranges, where there is a demand for firewood, special fellings of it were made.

119. Teak trees in the Akola and Sangamner forests of the Ahmednágar Division were felled in accordance with the provisions of working plan which had been made by Mr. Hight, Deputy Conservator of Forests. The timber is crooked and small, owing to the fact that in former years the trees used to be lopped or pruned, and all the other kinds of trees were cut away, protection being restricted to one tree, the teak, only. Jambul trees (Jambosa salicifolia) were felled in the "bets" or clumps on the banks of rivers; sales were not good. There were on hand, at the commencement of the year, 8,734 teak rafters and 554 jambul rafters. The cost of teak felling of the year was at the rate of Rs. 2-1-0 per 100 rafters, and the selling rate came to Rs. 16-7-0 per 100. Jambul fellings cost Rs. 2 per 100, and the receipts averaged Rs. 7 per 100. 1,188 teak rafters with 22 khandis 21 maunds and 7 lbs. of teak firewood and 4,575 jambul rafters with 15 khandis 10 maunds and 7 lbs. of jambul firewood remained unsold at the end of the year. Firewood fellings were made in the bábul reserves in the champaign country, the trees selected being dead, uprooted by floods, and blown down. A sudden flood swept 50 khandis of firewood out of the Johárápur Reserve in January. The cost of the firewood fellings have averaged 3 annas and 9 pies the khandi, and the receipts Rs. 1-12-0. The following table is an abstract of the operations:—

No.	Ranges.	No. of Coupes.	Number of trees felled.	Timber Pieces.		Firewood.			Cost.			Receipts.		
				Teak.	Jambul.	K.	m.	lbs.	Rs.	a.	p.	Rs.	a.	p.
1	Akola	15	13,910	29,922	10,858	293	22	14	823	14	0	4,617	4	10
2	Sangamner ...	4	8,112	15,764	1,980	539	10	18	380	9	9	3,314	2	3
3	Nagar	6	167	...	...	83	2	4	28	8	0	246	14	0
4	Shrígonda ...	3	360	...	...	100	18	7	21	0	6	358	0	0
5	Shevgaon ...	1	71	...	...	93	24	0	23	1	0	42	14	0
6	Nevása ...	1	85	...	...	29	23	0	5	0	0	25	15	0
7	Kopargaon ...	3	152	...	...	343	18	0	66	9	3	384	9	9
	Total ...	33	22,857	45,686	12,838	1,484	6	15	1,348	10	6	8,989	11	10

120. In the Poona Division the felling operations are distributed widely over the forests, and the material is sold in small lots to villagers, who are the principal

attendants of the auctions. In the Junnar Range, 5,000 teak pieces instead of 5,000 trees were felled. The extent of the operations and their financial condition will be seen from the following figures :—

No.	Range.	Trees felled.		Yield.		Cost.			Receipts.		
		Teak.	Junglewood.	Pieces.	Firewood.						
						Rs.	a.	p.	Rs.	a.	p.
1	Junnar	1,694	439	4,980	235	146	12	9	2,448	2	6
2	Indápur	...	141	...	283	35	14	0	588	14	0
3	Khed	8,036	197	25,263	994	866	6	6	6,324	0	0
4	Ambegaon ...	5,000	300	20,209	193	358	5	3	6,817	12	0
5	Sirúr	...	1,619	...	1,018	184	9	6	2,441	8	0
6	Purandhar ...	3,000	11,000	8,170	578	272	14	3	2,091	12	0
7	Bhimthadi ...	...	1,052	...	1,119	187	12	3	3,263	0	0
8	Bárámati	...	340	...	530	56	9	9	1,294	1	0
9	Haveli	5,101	1,151	25,303	1,952	764	10	0	6,397	1	0
10	Mulshi	...	...	...	...	.....			.....		
11	Mával	828	294	3,899	118	108	10	9	970	3	0
	Total ...	23,659	16,533	87,824	7,020	2,982	9	0	32,636	5	6

121. In the Sátára Division, in the same way, fellings were made in all the ranges and the material was sold departmentally in lots by public competition :—

No.	Ranges.	Yield.			Cost.			Receipts.		
		Teak.	Junglewood.	Firewood.						
					Rs.	a.	p.	Rs.	a.	p.
1	Pátan	22,714	5,988	550½	1,115	15	0	7,184	9	0
2	Karád	12,020	...	700	499	15	3	3,728	2	0
3	Koregaon	1,860	...	110¼	137	0	0	546	0	0
4	Shirála...	9,240	...	115¼	174	9	9	1,763	11	3
5	Khatáv...	17	106	22	13	6	0	56	0	0
6	Mahábaleshvar ...	...	3,402	1,189¼	869	15	3	1,725	15	5
7	Tásgaon	...	762	185½	206	1	0	840	7	0
8	Khandála	...	...	53	23	6	6	67	2	0
	Total ...	45,851	10,258	2,925¾	3,040	4	9	15,911	14	8

122. 12 khandis and 77 maunds of charcoal made at a cost of Rs. 36 sold for Rs. 96, and 19,000 bámbus cut and stacked at a cost of Rs. 126-11-0 sold for Rs. 196-9-6. Besides the above, at the forest depôt at Málcolmpet, which is maintained for the supply of the station at Mahábaleshwar, the following sales took place :—

1,399 junglewood rafters for	...	Rs.	343 7 5
1,045 khandis firewood for	...	„	1,313 4 0
23 khandis and 12 maunds charcoal for ...	...	„	164 0 0
9,599 bámbus for	...	„	161 7 6

123. The departmental timber operations in the Sholápur Division are necessarily confined to the cutting of a few bábul trees for timber and the clearing out and sale as firewood of dead and fallen trees in the reserves.

124. The timber market in the Surat Division was very much depressed, and only a small quantity of the departmentally felled timber was sold, as will be seen from the stock account appearing in the table below:—

No.	Range.	Trees.		Yield.		Cost.	Receipts.	Remarks.
		Teak.	Jungle-wood.	Timber Pieces.	Firewood.			
1	Mándvi	9,460	...	33,344	...	Rs. a. p. 1,855 0 0	Rs. a. p. 5,095 0 0	26,612 timber pieces not sold.
2	Chikhli and Párdi ...	5,080	7,220	12,349	Khandis 1,126 Tons.	1,112 0 0	5,919 0 0	6,507 pieces of timber not sold.
3	Dángs...	1,689	...	Cubic ft. 35,025	162 ...	1 6 per 12½ cubic feet.	.....	Not sold.
	Total ...	16,229	7,220	45,693 Cubic ft. 35,025	Khandis. 1,126 Tons. 162	.. ..	11,014 0 0	

125. In the Panch Maháls Division there was a considerable stock of timber, firewood, and bámbus at hand at the commencement of the year, all of which was sold as under :—

Range.	Material.	Quantity.	Sale Results.
			Rs. a. p.
Godhra	Timber	1,324 pieces.	625 12 0
	Firewood	4,771 khandis.	2,543 0 0
	Bámbus	626	4 3 0
Hálol	Timber	126	6 0 0
	Firewood	4,437½	240 4 0
	Total ...	.....	3,419 3 0

While the departmental transactions of the year consist of 8,028 timber pieces in the Godhra forests, which cost Rs. 478-10-11, and sold for Rs. 8,692-9-11, and 15,279 bámbus costing Rs. 210-2-0, which sold for Rs. 1,050.

I (e). Grass and other Minor Produce.

126. In the North Thána Division the bark of the ain trees (Terminalia tomentosa), which are felled departmentally producing timber and firewood, was stripped, packed, and sold at Rs. 5 per khandi of 784 lbs. to the fishermen of the coast for dyeing their fishing nets. The results are given below :—

Range.	Quantity.	Cost.	Receipts.
	K. m. lbs.	Rs. a. p.	Rs. a. p.
Bassein	101 7 0	50 10 0	506 4 0
Máhím	183 25 0	74 6 3	858 5 2
Dáhánu	85 14 0	147 0 0	290 0 0
Total ...	370 18 0	272 0 3	1,654 9 2

127. A departmental collection of the hirda nuts, the fruit of the Terminalia chebula, the myrobolan of commerce, was made as usual. The crop generally was an indifferent one, but in the Ahmednagar Division very much larger collections were made than during the previous year, when large thefts of hirda took place, and the thieves were caught and punished. The following table gives the collections and disposals of the year :—

Division.	Yield.		Cost.		Receipts.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
	K. m. s.	K. m. s.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
South Thána ...	140 23 6	160 7 3	1,288 3 2	1,270 4 1	2,935 13 8	2,383 11 2
Násik	159 24 24	82 3 4	3,240 6 9	922 8 6	4,080 1 1	1,230 8 9
Ahmednagar ...	140 6 4	225 11 4	709 5 0	1,453 15 9	2,527 7 6	2,853 2 7
Poona	156 0 16	169 3 8	782 13 9	809 14 1	394 12 9	3,560 12 3
Sátára	907 11 20	691 17 4	6,698 10 11	4,934 13 4	19,566 4 2	6,718 15 0
Total ...	1,504 10 14	1,328 13 23	12,719 12 7	9,391 7 9	29,504 7 2	16,747 1 9

128. In the South Thána Division a small quantity of hirda—12 khandis 3 maunds and 10 sers—collected after the close of the year, the cost of which amounted to Rs. 74-5-0, was sold for Rs. 160-12 1. Thus the crop of the season came to 172 khandis 10 maunds and 13 sers. In the Násik Division the crop was not a good one, and the cost of collection was high. The price realized at auction-sales varied in South Thána, at 2 annas a páili, Rs. 13-4-0, and in Ahmednagar Rs. 12-10-6 per Bombay khandi of 784 lbs. In the Sátára Division the price per Deshi khandi of 1,600 lbs. was only Rs. 30½, against Rs. 57 of the previous year, showing a very considerable decline.

2.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY PURCHASERS AND CONSUMERS.

North Thána Division.

129. *(a)—Timber.*

Range.	Number of Trees.	Yield.			Receipts.
		Timber Pieces.	Battens.	Firewood Khandis.	
					Rs. a. p.
Umbargaon	15,000	14,155	3,512	1,430	17,563 4 9
Dáhánu	20,000	20,788	5,007	3,780	27,139 15 11
Máhím	15,000	19,520	3,089	2,215	21,102 3 0
Váda	20,000	19,864	7,409	1,950	22,467 11 0
Total ...	70,000	74,327	19,017	9,375	88,273 2 8

130. The local population is allowed to remove firewood on permits on reduced rates, and the follwing quantities were thus taken :—

Range.	Head-loads, 9 pies man, 6 pies woman, 3 pies child.	Large Cart, Re. 1.	Small Cart, Re. 0-8-0.	Kowl Khandis in Boats, Re. 0-6-0.	Total.
	Rs. a. p.	Rs. a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.
Sálsette	512 14 0	...	37 0 0	.....	549 14 0
Bassein	269 15 9	799 0 0	723 8 0	569 15 3	2,362 7 0
Máhím	...	...	1,577 8 0	908 15 5	2,486 7 5
Dáhánu	...	...	1,245 8 0	.....	1,245 8 0
Umbargaon	...	...	462 0 0	.....	462 0 0
Váda	...	42 0 0	100 8 0	.....	142 8 0
Total ...	782 13 9	841 0 0	4,146 0 0	1,478 14 8	7,248 12 5

131. Bámbus in like manner were removed by the local population for agricultural and domestic uses on specially reduced rates.

Range.	Padal at Rs. 5 per 100.	Manwel at Rs. 3 per 100.	Bundhi at Re. at 0-8-0 per cart.	Zhita at Re. 0-3-0 per cart.	Karvi (Strobolanthes) at Re. 0-4-0 per cart.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Sálsette	55 10 0	55 11 6	11 4 0	5 7 0	58 4 0	186 4 6
Bassein	503 1 9	89 0 6	508 1 6	203 3 0	309 2 6	1,612 9 3
Máhím	97 11 6	339 9 0	841 0 0	245 10 0	34 0 0	1,557 14 6
Dáhánu	211 9 6	93 0 0	537 0 0	79 2 0	6 10 0	927 5 6
Umbargaon	...	0 7 0	65 0 0	36 6 0	25 8 0	127 5 0
Váda	54 4 3	220 15 6	197 1 6	12 15 0	...	485 4 3
Total ...	922 5 0	798 11 6	2,159 7 0	582 11 0	433 8 6	4,896 11 0

and for trade purposes the following quantities of bámbus were removed by contractors, who had purchased the right of removal by public competition :—

Range.	Number of Bámbus.	Rate per 100.	Receipts.
		Rs. a. p.	Rs. a. p.
Bassein	29,350	2 0 0	587 0 0
Máhím	70,360	2 0 0 1 7 0	1,225 12 3
Dáhánu	75,500	2 11 6 2 0 0	1,830 14 6
Váda	1,55,591	2 8 0 2 2 0	3,407 8 5
Total ...	3,30,801	...	7,051 3 2

132. Other minor produce, such as the leaves of apta (Bauhinia racemosa), temburni (Diospyros montana) for the manufacture of native cigarettes, and shembi bark for colouring fishing nets were removed by contractors, who paid Rs. 2,023 for the cigarette leaves and Rs. 305 for the bark.

South Tha'na Division.

133. The Bombay Municipality purchased the timber standing upon two strips, of 1,000 feet and 500 feet respectively, below the dam of the Tánsa Lake for Rs. 7,100, and the timber upon a compartment within the bed of the lake was purchased by Messrs. Glover & Co., the lake contractors, for Rs. 4,800 at a rate of about Rs 40 per acre. Other purchases of trees standing upon lands which they and Messrs. Lovell, Mitchell and Co, the duct contractors of Tánsa, required to clear for the construction of their works, were made by the above-mentioned firms for Rs. 1,244. Of firewood 1,789 khandis were removed by purchasers, realising Rs. 955. Bámbus at the rate of Rs. 2-5-3 per 100 sold to contractors and by permit to villagers realised Rs. 5,162-4-0, while other minor produce produced Rs. 4,684-4-0 of revenue.

134. In the Khándesh divisions the permit system obtains, under which dead timber is removed at Rs. 4 per cart-load and 4 annas a head-load ; fuel 4 annas per cart-load and charcoal at Re. 1 per cart ; the collections appear in the statements attached to the report. The other minor produce receipts are large, and are made up chiefly by the proceeds of the contracts for the manufacture of rosha, or grass oil : 213 stills were working in the West Khándesh Division, and Rs. 7,250 were realised therefrom.

135. The transactions under the several sub-heads of receipts in the different divisions appear fully detailed in the appendices of this report, and there is nothing deserving notice here.

3.—PRODUCE REMOVED BY RIGHT HOLDERS.

136. No rights, save of way and water access, have been found by the Forest Settlement Officers to attach to the forests of the Northern Circle, and right holders have no *locus standi* in any of the forests,

4.—FREE GRANTS OF TIMBER.

137. A comparative statement of free grants of timber which have been made during the past two years is given :—

No.	Forest Division.	1884-85.	1885-86.	1886-87.
		Rs. a. p.	Rs. a. p.	Rs. a. p.
1	North Thána	5 14 0	.....	50 0 0
2	South Thána...	1,759 4 0	619 13 0	336 5 0
3	East Khándesh	7 12 0	.....	.....
4	West Khándesh	1,360 13 5	1,221 13 5	1,639 4 0
5	Násik	209 12 6	477 5 5	348 10 4
6	Ahmednagar	9 15 0	.....	.....
7	Poona	295 11 0	740 0 0	120 0 0
8	Sátára	.....	100 0 0	52 8 0
9	Sholápur	.....	.....	... ..
10	Surat...	1,539 0 0	152 0 0	724 0 0
11	Panch Mahál	750 0 0	641 6 0	973 10 0
		5,938 1 11	3,952 5 10	4,244 5 4

138. In addition to the special free grants of timber, concessions of very considerable value are made in respect of the forests—to enjoy, to cut, and take. In the North Thána Division it is stated that timber of the inferior kinds valued at Rs. 17,175 has been taken from the forests by the poorer classes for building and repairing their huts. In the South Thána Division the value of the privileges exercised by the people in respect of forest produce during the year of the report is assessed at Rs. 2,55,248, made up as under :—

	Rs.
Firewood	1,90,740
Grazing and grass	23,386
Leaves, not including ráb	23,842
Fruit	200
Honey, wax, &c....	1,050
Ráb material	16,030
	2,55,248

139. In the Poona Division it is estimated that 1,69,770 acres of pasturage are enjoyed free inside the forests, and that Rs. 55,000 are sacrificed on this account ; and it may be safely estimated that the value of the produce of the forest estates in the Northern Circle, which the people appropriate in the shape of conceded privileges, exceeds considerably the total forest collections which are shown in the forest accounts.

5.—SUMMARY OF PRODUCE REMOVED FROM THE FORESTS.

140. The following is a summary of the timber and other forest produce removed from the forests during the year as compared with the preceding year :—

Description of Produce.	1885-86.		1886-87.	
	Number.	Khandis.	Number.	Khandis.
		Cubic feet.		Cubic feet.
(a) *Timber.*				
Teak logs, green	...	9,784	...	558
		Khandis.		
Do. dead	...	200	...	657
Teak rafters	3,17,576	...	7,75,784	...
Do. pieces	4,76,981	...	1,35,173	...
Do. posts	1,511	...	7,069	...
Do. beams	248	...	39	...
Do. ... ... Cart-loads.	7,780	...	29,926	...
Do. ... ... Head-loads.	...	...	12,155	...
Blackwood logs	...	1,476	...	...
Do. pieces	18	...	115	...

Description of Produce.	1885-86.		1886-87.	
	Number.	Khandis.	Number.	Khandis.
Khair (Acacia catechu) logs	3,239	...	256	...
Do. ... Cart-loads.	101	...	1,059	...
Bábul (Acacia arabica) logs	208	...	412	...
	Cart-loads.			
Do. bark	5	3	...	3
		Cubic feet.		
Hed or haladván (Nauclea cordifolia) ...	...	4,604	...	90
		Khandis.		
Bibla or beo (Pterocarpus marsupium) ...	...	1,815	...	100
Tannach or tivas (Dalbergia oojenensis) ...	130	...	4,311	109
Ain (Terminalia tomentosa) logs ...	4,195	...	6,931	...
Do. bark ..	...	249	...	343
Kanti (Acacia procera)	1,844	...	27	...
Junglewood rafters	59,584	...	80,809	...
Do. ... ... Cart-loads.	5,778	...	40,280	...
Palm logs	1,180	...	508	...
(*b*) *Firewood.*				
Firewood ... ... Cart-loads.	41,680	...	51,746	...
Do. ... ...Head-loads.	23,994	...	30,331	...
Do. ... ... Cubic feet.	...	31,016	...	2,942
Do. ... ... Khandis.	...	878	...	45,744
Do. ... ... Tons.	...	...	...	1,050
Charcoal	...	39	...	21
Do. ... ... Cart loads.	12	...	71	...
Do. ... ... Head-loads.	6,944	...	8,724	...
Firewood ... ... Pieces.	70,940	...	2,106	...
(*c*) *Bámbus.*				
Bámbus	21,36,062	...	20,03,876	...
Do. ... ... Cart-loads.	6,473	...	5,226	...
Do. ... ... Head-loads	20,243	...	36,419	...
Small bámbus ... ... Cart-loads.	3,675	...	1,773	...
Do. ... ... Head-loads	337	...	913	...
Canes...	661	...	40	...
(*d*) *Sandalwood.*			Trees.	
Sandalwood rafters	488	...	105	...
(*e*) *Grass and other Minor Produce.*				
Karvi... ... ... Cart-loads.	2,918	...	2,075	...
Do. ... ...Head-loads.	19,766	...	24,684	...
	Carts.	Kh. mds.	Carts.	K. m.
Mowra flowers	72	200 4	20	41 12
Hirda...	...	1,493	...	933 15
Shikakái	...	35	...	70
Grass... ... ... Cart-loads.	420	...	1,500	...
		Mds.		Mds.
Honey	...	294	...	171
		Khandis.		
Wax	...	17	...	...
				Cubic feet.
Stone ... ... Cart-loads.	14,411	...	20,166	17,500
Do. ... Donkey-loads.	76	...	...	...
Earth... ... ... Cart-loads.	132	...	455	...
				Khandis.
Do. ... ... Cubic feet.	...	800	...	900
Thorns ... ... Cart-loads.	1,231	...	1,600	...
Do. ... ...Head-loads.	18,423	...	19,325	...
Do. ... ... Bullock-loads.	36	...	25	...
Dhávda leaves ... ... Bundles.	11	...	57	...
			Bundles.	
Apta do. ... ... Cart-loads.	15	...	9,61,925	...
Táhál (ráb material) ... Cart-loads.	...	...	12	...
Do. ...Head-loads.	...	...	23,400	...

CHAPTER V.

FINANCIAL RESULTS.

141. The following table exhibits a comparison between the revenue and expenditure of the past three years:—

Official Year.	Receipts.	Expenditure.			Net Revenue.
		A.—Conservancy and Works.	B.—Establishments.	Total.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1884-85 ...	10,08,725 3 1	4,04,378 2 6	2,85,709 11 3	6,90,087 13 9	3,18,637 5 4
1885-86 ...	10,37,296 9 7	1,89,881 11 7	4,73,758 0 5	6,63,639 12 0	3,73,656 13 7
1886-87 ...	9,13,100 15 6	2,09,072 11 10	4,78,792 3 8	6,87,864 15 6	2,25,236 0 0

142. The gross receipts of the year have fallen to about the same figure as the receipts of 1882-83, which amounted to Rs. 9,13,531. The stagnation of the timber market in the Thána District and the absence of any demand for timber from the Dángs and Mándvi forests of the Surat Division, combined with a sudden and unaccountable fall in the prices for myrabolans, have contributed to this result.

143. The distribution of receipts among the several divisions in the circle, compared with the collections of the preceding year, is as under:—

No.	Forest Division.	1885-86.	1886-87.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	1,190 14 8	25 4 0	.....	1,165 10 8
2	North Thána	2,42,729 2 4	2,19,187 14 9	.....	23,541 3 7
3	South Thána	1,03,413 2 2	1,03,841 7 7	428 5 5	.....
4	East Khándesh ...	59,690 8 6	61,888 14 4	2,198 5 10	.....
5	West Khándesh ...	1,02,709 0 9	90,902 15 5	.....	11,806 1 4
6	Násik	1,18,019 15 9	1,06,586 9 7	.....	11,433 6 2
7	Ahmednagar	31,568 6 1	44,116 12 11	12,548 6 10	.....
8	Poona	1,00,967 11 6	89,928 5 6	.....	11,039 6 0
9	Sátára	80,866 2 11	69,101 0 2	.....	11,765 2 9
10	Sholápur	16,798 14 4	7,392 15 3	.....	9,405 15 1
11	Surat	1,11,527 2 7	69,704 3 2	.....	41,822 15 5
12	Panch Mahals	67,815 8 0	50,424 8 10	.....	17,390 15 2
	Total ...	10,37,296 9 7	9,13,100 15 6	15,175 2 1	1,39,370 12 2

144. In most of the divisions the revenue has decreased. In the North Thána Division there is a considerable decrease, owing chiefly to the low prices obtained at the retail auction sales. Depression in the rice trade, and the consequent inability of the rayats to sell their stock of rice at advantageous price, and to command funds, is stated to be one of the causes of the indifferent demand for timber. Another reason is that 5,000 trees, originally intended to be felled and sold departmentally, were sold on foot. In West Khándesh there is a decrease on account of bad prices obtained for timber departmentally felled, and it having been impossible to sell all the timber during the year. There was also a decrease of Rs. 5,225 on account of duty not being levied from the Mewás States, as directed in Government Resolution No. 8134 of the 7th October 1885. In the Násik Division the decrease is due to the smaller collection of hirda, owing to a bad crop. Contractors and purchasers of timber standing did not work out the quantities they had engaged to, owing to a very discouraging condition of the timber market. In the Poona Division the decrease is due to poor prices owing to fellings of inám teak, especially in Haveli and Purandhar, and to large importations of mâlki teak from Kolába. In the Satára Division the crop of hirda, the nut of the Terminalia chebula, was very short of the quantity expected, and the price of the article fell suddenly in a quite unexpected and unaccountable manner, and the revenue suffered in consequence. In Sholápur there is a decrease owing to the discontinuance of auction sales for grazing and

the substitution of the fee system, which did not prove remunerative. In the Surat Division the decrease is owing to the demand for timber being slack, and the departmental teak not having been disposed of during the official year 1886-87. The Dáng material could not be sold, the price offered being quite inadequate. The money due from the Upper Dáng contractors was not realised during the year. No revenue was obtained from catechu during the year, the price offered being very low. In the Panch Mahál Division the decrease in revenue is due to the poor prices realised for timber and firewood. The demand for firewood fell considerably. The chief cause of decrease of revenue under II *d*.—Grazing and Fodder Grass—is due to free grazing having been conceded for the cattle of all villagers who are not professional graziers.

145. There is an increase of revenue only in the 3 forest divisions of South Thána, East Khándesh, and Ahmednagar. In the South Thána Division the increase being trifling, only Rs. 428-5-5, no explanation is necessary. In the East Khándesh Division the increase of revenue is Rs. 2,198-5-10 over the actuals of past year and Rs. 2,980 over the sanctioned estimate of 1886-87; this is mainly due to grazing receipts under II *d* having been increased, as no free grazing is allowed in the forests of this division. In the Ahmednagar Division there was an increase of revenue in grazing; and though the price of hirda declined, a larger collection of nuts was made than had been estimated, and the larger supply more than counterbalanced the heavy fall in the selling price.

146. Revenue of the year under report on the whole shows a net decrease of Rs. 1,24,195-10-1 when compared with the actuals of past year, *viz.*, 1885-86.

147. Expenditure under A.—Conservancy and Works distributed among the several forest divisions, as compared with the expenditure of last year, is as under:—

No.	Forest Division.	1885-86.	1886,87.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	86 13 0	42 14 2	.....	43 14 10
2	North Thána	25,029 9 0	31,454 14 0	5,525 5 0	.....
3	South Thána	28,014 8 0	31,475 12 9	3,461 4 9	.....
4	East Khándesh ...	11,162 6 0	9,222 7 3	.....	1,939 14 9
5	West Khándesh ...	19,779 4 3	10,723 4 6	.....	9,055 15 9
6	Násik	16,442 1 6	14,175 7 1	.....	2,266 10 5
7	Ahmednagar	16,000 14 8	17,016 7 8	1,015 9 0	.....
8	Poona	14,814 10 5	24,466 9 4	9,651 14 11	.....
9	Sátára	28,452 0 3	19,826 7 10	.....	8,625 8 5
10	Sholápur	6,401 8 8	7,998 0 8	1,596 8 0	.....
11	Surat	16,887 11 1	21,854 8 10	4,966 13 9	.....
12	Panch Mahals... ...	5,910 4 9	4,940 0 10	.....	970 3 11
13	Working Plans ...	.....	15,875 12 11	15,875 12 11	.....
	Total ...	1,89,881 11 7	2,09,072 11 10	42,093 4 4	22,902 4 1

148. Expenditure under "A.—Conservancy and Works" shows a decrease of Rs. 22,902-4-1 upon that of 1885-86 in some divisions, while in others there is an increase aggregating Rs. 42,093-4-4, and thus the net increase in expenditure amounts to Rs. 19,191-0-3. The Working Plans Division exhibits an increase of Rs. 15,875-12-11, while in 1885-86 there was no expenditure on this account, and also under A *VIII b*.—Compensation for Land and Rights—there was an increase of expenditure over the actuals of 1885-86.

149. Against "B.—Establishments" the expenditure under superior officers is less, as the pay of the Divisional Forest Officer, Working Plans, is charged to A *VIII c* instead of to B, which is the appropriate place, under instructions from the Accountant General. Under B *I c* there is a saving of Rs. 3,002-2-4, while, on the other hand, there is an increase of Rs. 6,827-0-4 under B *III f*—Sundries—on account of the cost of uniforms supplied to the subordinate protective establishments and Rs. 845-2-5 on account of payments to officers of other provinces being debited to the Northern Circle during the year under report. The net increase of expenditure under B is Rs. 5,034-3-3 over the actuals of 1885-86.

CHAPTER VI.

GENERAL REMARKS.

150. On the 1st April 1886 the Conservator's camp was at Bhanvád on the Násik Ghâts, the Divisional Forest Officer of Násik being in company; forests and works were inspected, and the divisional forest office was examined. From Bhanvád the Conservator marched through the Kalvan and Báglán ranges of Násik into the West Khándesh Division. Mr. Mainwaring, the Divisional Forest Officer, met him on the frontier, and after passing through the Nizámpur and Dhulia ranges and inspecting the 2 divisional forest offices of Khándesh, Mr. Greatheed having met the Conservator at Dhulia, the camp marched to Málegaon, Manmád, and on to the eastern districts of the Poona Division, where the bábul reserves in the Bhimthadi Range were inspected. The improvement appearing in the growth in the old and new reserves is remarkable; dense cover has formed over the ground in places where a few years ago the land was quite bare, and there is no doubt that these forest estates will soon be very much more remunerative properties than they are already. From the valley of the Bhíma the Conservator proceeded to Mahábaleshvar, arriving there on the 14th May, and he returned to head-quarters at Poona for the rainy season on the 14th June.

151. In November the Conservator was out in camp in the Sholápur District with Mr. Millett, the Divisional Forest Officer: the reserves in the Karmála Táluka were visited, and the divisional forest office was examined. The forest vegetation here has come on beautifully, and grass of good quality is growing in abundance upon land which not long ago was bare barren stony "mal." From the Sholápur Division the Conservator marched into the Jámkhed Táluka of Ahmednagar, where Mr. Mainwaring met him. The hills here upon the Nizám's frontier are rapidly becoming forest-clad, trees are asserting themselves among the scrub. From Jámkhed the Conservator was driven into Nagar by a heavy fall of rain lasting some twelve hours, which flooded the country and made the rivers overflow their channels, the diminished capacity of the latter owing to depositions of silt in them rendering them incapable of carrying off the rain-water which the semi-denuded drainage slopes could not restrain and store up; and thus tons of water, which would have benefited the cultivation on the plains could it have been impounded by the hills, returned from the district towards the ocean unused locally, and doing harm by the way. The divisional forest office was inspected. Forests in the Párner and Shrígonda tálukás as well as the forest at Dongargaon were examined, and the Conservator returned by way of the Sirúr Range of the Poona Division to head-quarters for the Christmas vacation.

152. The camp having been sent down by railway to the South Thána District on the 4th January it was established at Chandai. Mr. Hornidge came there shortly afterwards, and the Conservator had a conference with the 2 Divisional Forest Officers of North and South Thána respectively and with Mr. Fry, the Divisional Forest Officer, Working Plans, regarding the working plan arrangements of the forests of the Thána District. The Conservator then went to the Máhím Táluka of North Thána, inspecting with Mr. Wilkins forests in the Máhím, Dáhánu, and Umbargaon ranges.

153. Leaving the Thána District after the 2 divisional forest offices had been examined, the Conservator moved into the Panch Mahás, inspected the Godhra Táluka forests with the Divisional Forest Officer Mr. Keys; met the Collector and the Forest Settlement Officer; examined the divisional forest office, and then went south into the Mándvi Táluka of the Surat Division, where Mr. Gleadow joined him, and travelled with him over the forests of the Mándvi Range. The Collector of Surat, Mr. Mulock, was met, and forest matters were discussed in camp, and the divisional forest office was examined.

154. From the Surat District the Conservator marched up the Tápti valley through Songad to the Navápur forests of West Khándesh, and from there the forest depôt in the Dángs below the Jackriabari was visited, and the Conservator marched through the Pimpalner Táluka of West Khándesh to Mulher, and on the 31st March 1887 his camp was in the Chándor Range.

155. The Divisional Forest Officers generally have worked in a satisfactory manner, and the Conservator would mention the names of Messrs. Wroughton, Mainwaring, Fry, Wilkins, Keys, Millett, W. G. Betham, as deserving special

commendation. Of the Sub-Assistants, Messrs. Madan, Clabby, Mahájan (who has died since the close of the year), Blackwell, Wallinger, and Gaundé have been very active, energetic, and industrious.

156. Of the Range Forest Officers, upon whom devolves the greatest responsibility and very hard work, several have shown again by the highly creditable performance of their duties during the year what valuable public servants they are. The names of forest rangers—

Shaik Abas Shaik Alli,
Hasan Ali Mahomed Ali,
Chimnáji Parashram,
Elahibax Khajbax,
Kashináth Mahiput,
Náráyan Sakhárám Kharé,
Luxuman Bhiwji Pápdé,
Wáman Gopál Tumné,
Abdul Rasul Khajbax,
Vishnu Mahádeo Tilak,
Govind Rámchandra Taklé,
Báláji Dhondeo Dhekné,
Aminodin Ali Udin,
Rámchandra Rowji Bodhwadkar,
Sitárám Hari Vazé,

have been especially distinguished.

157. The office work demanded of Forest Officers necessitates much attendance at the desk, and gives constant and long employment to a large staff of clerks, for the system of accounts is very elaborate, requiring the submission periodically of numerous returns, forms, and statements. The Conservator is of opinion that simplification of the system is called for, and is possible. It is undesirable that the movements of the Divisional Forest Officer in his district tour of forest inspections should be hampered by the transport of a numerons establishment of clerks and cart-loads of office furniture and records. A change might be made upon the lines that instead of every Divisional Forest Officer having to take with him into the districts on tour a large number of clerks constituting his accounts branch, in order to prepare and submit a set of divisional accounts, there might be one central office of accounts for the whole circle at the headquarters station of the circle, where all the divisional receipts and charges might be embodied into one general cash account for the circle; the Divisional Forest Officers would then forward all their receipted vouchers and chalans with the counterfoils of the cheques issued by them relating to the month, and these documents would in the general accounts office be included in the monthly cash account of the circle.

158. The office establishments have performed their duties in a highly creditable manner, and the following names are specially mentioned:—Messrs. Ganesh Sakhárám Hingé, Krishnáji Bábáji Phadké, and Antáji Krishna Deshpánde in the Conservator's office; Shivrám Bhikáji Rangnekar, Nimbráj Kesheo Chandekar, Trimbak Govind Mahájan, and Trimbak Bhikáji Lawhate in the divisional forest offices.

159. The forest classes in the College of Science contained 2 scholars in the senior and 2 in the junior class. Two men have passed the final examination: one of these has obtained employment in the Cutch State and the other in another Native State. Mr. T. B. Fry, Divisional Forest Officer, Working Plans, delivered a series of lectures upon forestry at the forest classes.

160 A civil suit, known as the Goema case, brought by one Ranchod Enderjee, a timber-dealer, against the Forest Department in the Surat Division, was decided by the Sessions Judge of Surat in favour of this department. Khán Sáheb Dádábhái Nasarvánji Nánávati, Mámledár of Párdi, did excellent service in rendering great assistance to the Government Pleader, Mr. Kevalrám Oomidrám, who successfully conducted the defence in behalf of the Forest Department, in a very able and satisfactory manner.

A. T. SHUTTLEWORTH,
Conservator of Forests, N.C.

Poona, 25th October 1887.

B 691—13 N C

FORM No. 49.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Reserved Forests, 1886-87.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886. Acres.	Area on 1st April 1886. Equivalent in Square Miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1887. Acres.	Area on 31st March 1887. Equivalent in Square Miles.	Number and Date of Notification of addition or transfer.	Remarks.
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána ...		1,68,651	263 331	*a* 13,649	*b* 4	1,82,296	284 536	*a* No. 1056 15-2-87 / *b* No. 7,903 8-11-86	No. 5690 9-8-86
South Thána ...			1,80,481	282 1	28,085	171	2,08,395	325 395		
East Khándesh ...	Khándesh ...		4,27,596	668 76	...	....	4,27,596	668 76		
West Khándesh ...			7,78,733	1,216 493	*c* 348	*d* 748	7,78,333	1,216 93	*c* 7020A 4-10-86 / *d* 3604 19-5-86	1608 16-3-87 / 207 11-1-87
Násik	Násik		6,93,315	1,083 195	*e* 18,584	950	7,10,949	1,110 549		
Ahmednagar ...	Ahmednagar ...		5,15,288	805 88	*f* 34,859	*g* 14,854	5,35,293	836 253		
Poona	Poona		4,55,059	711 19	*h* 9,054	2,012	4,62,101	722 21		
Sátára	Sátára		4,10,556	641 316	12,644	1,040	4,22,160	659 400		
Sholápur	Sholápur ...		1,07,186	167 306	42,541	660	1,49,067	232 587		
Surat	Surat ...		44,284	69 124	...	...	44,284	69 124		
Dangs			5,76,000	900 0	...	...	5,76,000	900 0		
Kaira	Kaira		39	0 39	...	...	39	0 39		
Panch Mahals ...	Panch Mahals ...		1,33,419	208 299	*i* 901	2,889	1,31,431	205 231		
		Total ...	44,90,607	7,016 367	1,60,665	23,328	46,27,944	7,231 104		

a 1,379 rectification of area.
f 5,805 acres rectification of area.
g 10,326 acres do. do.
1,602 acres according to old survey transferred to the Poona Collectorate.
h 1,709 acres according to the revision survey have been added on account of the transfer of 2 villages from the Ahmednagar Collectorate.
i Rectification of area.

A. T. SHUTTLEWORTH,
Conservator of Forests, N.C.

Poona, 25th October 1887.

FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Protected Forests, 1886-87.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1887.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
				Sq.m. a.				Sq.m. a.		
North Thána ...	Thána		1,92,621	300 621	...	*1,532	1,91,089	298 369		* 926 acres rectification of area.
South Thána ...			2,26,000	353 80	...	30	2,25,970	353 50		
East Khándesh ...	Khándesh ...		98,434	153 514	...	†31,567	66,867	104 307	† Nos. 7105, 7533 and 7534, dated 6th and 25th October 1886 respectively.	
West Khándesh ...			1,24,777	194 617	...	...	1,24,777	194 617		
Násik	Násik		...	.....	...	...	.....	.....		
Ahmednagar ...	Ahmednagar ...		6,573	10 173	698	‡117	7,154	11 114		‡ Rectification of area.
Poona	Poona		...	.....	...	...	.....	.....		
Sátára	Sátára		17	0 17	...	...	17	0 17		
Sholápur	Sholápur ...		...	.....	...	...	.....	.....		
Surat	Surat		...	.....	...	...	.....	.....		
Dángs			...	.....	...	...	.....	.....		
Kaira	Kaira		...	.....	...	...	.....	.....		
Panch Mahals ...	Panch Maháls ...		...	.....	75,627	...	75,627	118 107		
		Total...	6,48,422	1,013 102	76,325	33,246	6,91,501	1,080 301		

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

Poona, 25th October 1887.

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Register of Breaches of Forest Rules during 1886-87.

I.—Prosecutions in the Courts of Law.

Forest Division and Civil District.	Cases pending from 1885-86.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to Forests by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other Offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
North Thána	...	...	41	...	1	42	42	32	99	10	22	42	121	...
South Thána	13	3	73	...	5	81	94	53	116	28	67	81	183	13
East Khándesh	5	10	9	2	2	23	28	16	62	9	19	25	81	3
West Khándesh	2	4	24	55	6	89	91	32	54	21	55	53	109	38
Násik	5	2	119	5	25	151	156	132	328	18	56	150	384	6
Ahmednagar	22	...	33	74	31	138	160	82	141	64	168	146	309	14
Poona	2	1	54	17	28	100	102	75	178	24	44	99	222	3
Sátára	2	3	56	14	14	87	89	16	34	71	143	87	177	2
Sholápur	6	...	9	55	24	88	94	63	152	25	81	88	233	6
Surat	...	...	2	...	2	4	4	2	7	2	4	4	11	...
Panch Maháls	...	...	35	...	1	36	36	30	79	6	19	36	98	...
Total ...	57	23	455	222	139	839	896	533	1,250	278	678	811	1,928	85

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

FORM No. 51.

Forest Department, Bombay, Northern Circle.

Area of Forest Tracts protected from Fire during the dry season 1887 to accompany Report for 1886-87.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1886.	During dry season of 1887.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
North Thána.	Sálsette	1878-79 ...	11,707	17,243	266	16,977	61	Fire-conservancy has been in operation for many years, but the year 1878-79 is entered here as the date from which the reservations were brought upon a legal foundation.
	Bassein	„ ...	55,861	41,393	4,000	37,393	21	
	Máhím	„ ...	80,491	1,01,407	3,044	98,363	336	
	Dáhánu	„ ...	1,17,416	1,26,673	2,455	1,24,218	14	
	Umbargaon	„ ...	33,434	38,717	637	38,080	...	
	Váda	„ ...	46,113	48,560	15,401	33,159	18	
	Total ...		3,45,022	3,73,993	25,803	3,48,190	450	
South Thána.	Bhiwndi	1878-79 ...	31,079	46,152	2,383	43,769	8	
	Shaháp ur	„ ...	...	86,172	3,102	83,070	2	
	Kinowli	„ ...	4,591	64,431	5,912	58,519	21	
	Mokháda	„ ...	..	31,533	...	31,533	...	
	Kalyán	„ ...	17,505	35,000	2,147	32,853	...	
	Murbád	„ ...	...	90,840	3,185	87,655	...	
	Karjat	„ ...	1,050	23,930	183	23,747	6	
	Khálápur	„ ...	2,907	17,745	40	17,705	13	
	Total ...		57,132	3,95,803	16,952	3,78,851	50	
East Khándesh.	Amalner	1878-79 ...	19,917	733	43	690	...	
	Bhadgaon	„ ...	18,640	15,277	...	15,277	...	
	Bhusával	„ ...	1,596	2,275	1,302	973	...	
	Chálisgaon	„ ...	61,180	15,760	670	15,090	...	
	Chopda	„ ...	1,00,202	3,34,871	3,320	3,31,551	...	
	Edalábad	„ ...	32,556	2,937	50	2,887	...	
	Erándol	„ ...	18,502	18,502	...	18,502	...	
	Jalgaon	„ ...	22,140	11,341	1,512	9,829	...	
	Jámner	„ ...	41,376	41,866	1,031	40,835	...	
	Páchora	„ ...	6,768	6,687	5	6,682	...	
	Ráver	„ ...						
	Sávda	„ ...	1,69,782	42,852	13,095	29,757	...	
	Yával	„ ...						
	Total ...		4,92,659	4,93,101	21,028	4,72,073	...	
West Khándesh.	Dhulia	1878-79 ...	1,11,698	1,11,698	30	1,11,668	...	
	Nandurbár	„ ...	70,977	72,747	8,855	63,892	...	
	Navápur	„ ...	79,100	81,400	14,000	67,400	...	
	Nizámpur	„ ...	1,49,026	1,49,851	14,810	1,35,041	...	
	Pimpalner	„ ...	56,747	56,962	1,523	55,439	...	
	Sháháda	„ ...	50,615	51,506	285	51,221	...	
	Shirpur	„ ...	13,958	18,610	455	18,155	...	
	Taloda	„ ...	2,21,325	2,21,685	1,933	2,19,752	...	
	Akrani	„ ...						
	Virdel	„ ...	1,768	1,778	605	1,173	...	
	Total ...		7,55,214	7,66,237	42,496	7,23,741	...	
Násik ...	Násik	1878-79 ...	29,056	31,070	765	30,305	4	
	Igatpuri	„ ...	37,254	37,254	256	36,998	...	
	Sinnar	„ ...	39,342	39,546	46	39,500	...	
	Dindori	„ ...	18,441	20,230	1,977	18,253	...	
	Niphád	„ ...	3,508	3,416	...	3,416	...	
	Chándor	„ ...	18,600	24,948	...	24,948	...	
	Yeola	„ ...	18,908	31,363	21	31,342	...	
	Báglán	„ ...	1,17,266	1,24,497	6,682	1,17,815	...	
	Kalvan	„ ...	99,853	1,09,355	1,692	1,07,663	...	
	Peint	„ ...	68,554	60,289	429	59,860	...	
	Málegaon	„ ...	1,17,799	1,21,914	...	1,21,914	...	
	Nándgaon	„ ...	1,06,688	1,07,067	342	1,06,725	...	
	Total ...		6,75,269	7,10,949	12,210	6,98,739	4	
dnagar.	Nagar	1878-79 ...	34,805	40,683	243	40,440	1	
	Párner	„ ...	68,293	69,717	149	69,568	2	
	Shrígonda	„ ...	43,582	43,395	1,198	42,197	...	
	Karjat	„ ...	49,764	50,040	303	49,737	...	
	Jámkhed	„ ...	36,361	39,279	486	38,793	...	
	Shevgaon	„ ...	18,616	27,184	326	26,858	...	
	Nevása	„ ...	19,885	20,535	15	20,520	...	
	Ráhuri	„ ...	40,129	48,673	27	48,646	...	
	Kopargaon	„ ...	4,899	5,102	...	5,102	...	
	Sangamner	„ ...	94,557	85,825	203	85,622	...	
	Akola	„ ...	1,09,433	1,13,615	365	1,13,250	1	
	Total ...		5,20,315	5,44,048	3,315	5,40,733		

FORM No. 51—*continued.*

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1886.	During dry season of 1887.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
		Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	
Poona ...	Junnar	1878-79...	61,103	55,268	230	55,038	...	
	Indápur	„ ...	62,583	59,789	137	59,652	...	
	Khed	„ ...	56,087	55,332	616	54,716	...	
	A'mbegaon	„ ...	44,295	43,479	1	43,478	...	
	Sirúr	„ ...	19,124	20,206	236	19,970	...	
	Purandhar	„ ...	25,952	25,423	29	25,394	4	
	Bhimthadi	„ ...	53,827	53,799	83	53,716	...	
	Bárámati	„ ...	20,049	19,734	8	19,726	...	
	Haveli	„ ...	49,732	50,009	351	49,658	1	
	Mulshi	„	27,810	25,234	...	25,234	1	
	Mával	„ ...	53,731	53,828	...	53,828	1	
	Total ...		4,74,293	4,62,101	1,691	4,60,410	7	
Sátára ...	Mahábaleshvar ...	1878-79...	38,958	40,918	30	40,888	...	
	Mán	„ ...	54,141	56,152	...	56,152	...	
	Khatáv	„ ...	16,257	16,257	...	16,257	...	
	Karád	„ ...	34,444	35,667	22	35,645	...	
	Wái	„ ...	24,391	24,792	16	24,776	...	
	Koregaon	„ ...	28,986	28,976	4	28,972	...	
	Sátára	„ ...	21,690	22,263	60	22,203	...	
	Tásgaon	„ ...	12,449	12,449	10	12,439	...	
	Khandála	„ ...	13,792	14,194	...	14,194	...	
	Jávli	„ ...	47,795	50,398	9	50,389	...	
	Khánápur	„ ...	29,716	29,717	52	29,665	...	
	Válva	„ ...	24,916	26,790	...	26,790	...	
	Pátan...	„ ...	61,847	63,587	2,374	61,213	...	
	Total ...		4,09,322	4,22,160	2,577	4,19,583	...	
Sholápur ...	Bársi	1878-79...	8,495	8,536	...	8,536	...	
	Mádha	„ ...	31,001	31,362	934	30,428	...	
	Karmála	„ ...	7,264	42,942	775	42,167	..	
	Pandharpur	„ ...	4,663	5,707	...	5,707	...	
	Sángola	„ ..	3,724	3,739	363	3,376	...	
	Málsiras	„ ...	20,774	21,392	...	21,392	...	
	Sholápur	„ ...	31,041	35,387	63	35,324	...	
	Total ...		1,06,962	1,49,065	2,135	1,46,930	....	
Surat ...	Mándvi	1878-79...	...	41,479	1,862	39,617	...	
	Dángs	„ ...	...	5,76,000	30,775	5,45,225	...	
	Chikhli	„ ...	425	825	710	115	...	
	Bulsár and Párdi ..	„ ...	1,503	1,529	...	1,529	...	
	Bárdoli	„ ...	...	451	...	451	...	
	Total ...		1,928	6,20,284	33,347	5,86,937	...	
Panch Mahals	Godhra	1878-79...	98,921	86,386	516	85,870	...	
	Kalol	„ ...	20,722	17,565	842	16,723	...	
	Hálol	„ ...	28,375	29,994	10,730	19,264	...	
	Dohad	„ ...	40,865	46,427	721	45,706	...	
	Jhálod	„ ...	30,129	26,585	2,000	24,585	...	
	Total ...		2,19,012	2,06,957	14,809	1,92,148	...	
	Grand Total ...		40,57,128	51,44,698	1,76,363	49,68,365	527	

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests N. C.

B 691—14 N C

FORM No. 52.

Forest Department, Bombay, Northern Circle.

Area of Plantations, 1886-87.

Division.	Name of Plantation.	Area in Acres.				Receipts.	Charges.	Remarks.
		On 1st April 1886.	Added during the year.	Excluded during the year.	Area on 31st March 1887.	Of the year.		
	Regular Plantations.	Acres.	Acres.	Acres.	Acres.		Rs.	
North Thána...	Párgaon	87	...	...	87	...	32	
	Sophála	306	...	...	306	...	70	
	Kamare	393	...	...	393	...	448	
	Wankas	831	...	...	831	..	281	
	Khaire	263*	...	...	263	...	202	* This plantation was inadvertently omitted by the Divisional Forest Officer in his last year's statement.
	Dáhánu	2	...	...	2	...	2	
	Karmbeli	127	...	...	127	...	1	
	Pách Pakhádi	1	1	...	2	...	...	
	Persick	2	16	...	18	...	25	
	Kandivli	15	8	...	23	...	20	
	Adivli Butawli	2	3	...	5	...	35	
	Tungár	...	1	...	1	...	3	
	Nandni Gaigotha	8	56	...	64	...	38	
	Kalambhai	1	...	...	1	...	...	
	Shil	...	20	...	20	...	7	
	Total ...	2,038	105	...	2,143	...	1,164†	† Out of this amount Rs. 920 were expended on fencing.
South Thána...	Bhiwndi	...	261	...	261	...	18	
	Mokháda	...	5	...	5	...	...	
	Karjat	...	5	...	5	...	...	
	Total ...	...	271	...	271	...	18	
East Khándesh...	.....		Nil.					
West Khándesh.	.....		Nil.					
Násik	.....		Nil.					
Ahmednagar ...	Dongargan	142	...	...	142	...	513	Expenditure on nurseries only.
Poona	.....		Nil.					
...	Máini...	97	11	...	108	...	75	
	Vaduj	25	9	...	34	...	62	
	Katarkhatáv	30	11	...	41	...	33	
	Padli	359	...	148	211	...	122	
	Ekambé	...	12	...	12	...	13	
	Chachegaon	13	97	...	110	...	59	
	Kale	75	41	...	116	...	36	
	Tambvi	...	5	...	5	...	1	
	Ving	...	2	...	2	...	1	
	Sasurvi	...	4	...	4	...	5	
	Wasantgad	...	19	...	19	...	2	
	Bholi...	9	...	9	...	...	...	
	Wátar	...	16	...	16	...	39	
	Tandulvádi	3	...	...	3	...	81	
	Kanegaon	30	...	...	30	...		
	Retre Dharnaché	10	...	10	...	...	...	
	Aitavádi	5	...	5	...	...	...	
	Daré Khurd...	41	...	37	4	...	12	
	Borgaon	34	9	25	18	...	178	
	Chinchni	...	1	...	1	..	2	
	Wái	45	...	45	...	...	...	
	Shidhnathvádi	...	205	...	205	...	32	
	Sultánpur	...	25	...	25	...	20	
...	Mahimangad	14	...	14	...	...	...	
	Gondowli Khurd	18	30	...	48	...	40	
	Medha	36	7	36	7	...	19	
	Kás	...	21	...	21	...	52	
	Wágeshwar	10	...	10	...	...	...	
	Máhábaleshvar	110	35	...	145	...	31	
	Bhikavli	5	...	5	...	...	...	
	Bhuteghar	10	...	10	...	...	...	
	Avakáli	2	6	...	8	...	6	
	Guregar	25	...	...	25	...	4	
	Bondarvádi	2	30	...	32	...	20	
	Erándol	6	...	6	...	...	...	
	Lingmalá	54	22	...	76	...	99	
	Gutád	...	11	...	11	...	27	
	Máchutar	...	5	...	9	...	23	
	Málcolmpet	...	25	...	25	...	27	
	Birvádi	...	6	...	6	...	4	
	Nágaz	...	100	...	100	...	100	
	Sáwarde	...	2	...	2	...	4	
	Kokisari	40	49	40	49	...	48	
	Vihé	...	15	...	15	...	17	
	Burli Amnápur	43	33	...	76	...	68	
	Shámgaon	15	7	...	22	...	15	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1886.	Added during the year.	Excluded during the year.	Area on 31st March 1886.	Receipts. Of the year.	Charges. Of the year.	Remarks.
	Regular Plantations—continued.	Acres.	Acres.	Acres.	Acres.		Rs.	
Sátára..	Sonsal	20	...	20	...	...	...	
	Chinchni	...	13	...	13	...	29	
	Ghanvád	4	...	4	...	...	...	
	Total	1,190	884	424	1,650	...	1,406	
Sholápur			Nil.					
Surat			Nil.					
Panch Mahals	Dayál	5	...	5	...	...	...	
	Total Regular Plantations	3,375	1,260	429	4,206	...	3,101	
	Cultural Operations.							
North Thána			Nil.					
South Thána	Bhiwndi	332	...	...	332	...	...	
	Kinowli	78	82	...	160	...	...	
	Khálápur	494	61	...	555	...	...	
	Karjat	167	18	...	185	...	...	
	Murbád	82	50	...	132	...	...	
	Sháhápur	26	29	...	55	...	...	
	Mokháda	14	50	...	64	...	...	
	Kalyán	62	40	...	102	...	...	
	Total	1,255	330	...	1,585	...	...	
East Khándesh.	Amalner	2,049	45	...	2,094	...	24	
	Bhadgaon	197	75	...	272	...	36	
	Bhusával	85	1,505	...	1,590	...	...	
	Chálisgaon	355	70	...	425	...	...	
	Chopda	215	140	...	355	...	...	
	Edlabád	300	40	...	340	...	...	
	Erándol	4,893	72	...	4,965	...	9	
	Jalgaon	175	198	...	373	...	21	
	Jámner	436	80	...	516	...	...	
	Páchora	5	20	...	25	...	1	
	Ráver	57	32	...	89	...	...	
	Sávda	139	70	...	209	...	...	
	Yával	30	30	...	60	...	...	
	Total	8,936	2,377	...	11,313	...	91	
West Khándesh	Akráni	29	66	...	95	...	...	
	Dhulia	2,375	238	...	2,613	...	79	
	Nandurbár	617	31	...	648	...	...	
	Navápur	731	300	...	1,031	...	...	
	Nizámpur	346	100	...	446	...	18	
	Pimpalner	986	398	...	1,384	...	93	
	Sháháda	130	10	...	140	...	...	
	Shirpur	1,562	61	...	1,623	...	...	
	Taloda	541	147	...	688	...	...	
	Virdel	4,674	...	...	4,674	...	127	
	Total	11,991	1,351	...	13,342	...	317	
Násik	Násik	61	...	...	61	...	46	
	Sinnar	86	...	...	86	...	27	
	Dindori	46	6	...	52	...	57	
	Niphád	...	96	...	96	...	229	
	Chandvád	150	...	...	150	...	...	
	Yeola	1,173	260	...	1,433	...	385	
	Málegaon	459	310	...	769	...	234	
	Nándgaon	243	...	...	243	...	9	
	Total	2,218	672	...	2,890	...	987	
Ahmednagar	Nagar	366	36	...	402	...	187	
	Párner	533	4	...	537	...	57	
	Shrigonda	613	74	...	687	...	41	
	Karjat	76	62	...	138	...	48	
	Jámkhed	1,401	129	...	1,530	...	38	
	Shevgaon	120	287	...	407	...	48	
	Newása	179	3	...	182	...	53	
	Ráhuri	129	1	...	130	...	104	
	Kopargaon	144	87	...	231	...	49	
	Sangamner	1,379	55	...	1,434	...	45	
	Akola	80	...	...	80	...	...	
	Total	5,020	738	...	5,758	...	670	

FORM No. 52—*continued.*

Division.	Name of Plantation,	Area in Acres. On 1st April 1886.	Added during the year.	Excluded during the year.	Area on 31st March 1886.	Receipts. Of the year.	Charges. Of the year.	Remarks.
		Acres.	Acres.	Acres.	Acres.		Rs.	
Poona	Junnar	955	10	...	965	...	56	
	Indápur	2,073	328	...	2,401	...	99	
	Khed	5,808	340	...	6,148	...	156	
	A'mbegan	2,271	9	...	2,280	...	40	
	Sirúr	5,251	404	...	5,655	...	173	
	Purandhar	5,736	182	...	5,918	...	93	
	Bhimthadi	2,885	439	...	3,324	...	103	
	Bárámati	1,599	305	...	1,904	...	97	
	Haveli	1,312	72	...	1,384	..	151	
	Mulshi	849	...	...	849	...	5	
	Mával	1,116	...	...	1,116	...	4	
	35,625 pits dug by guards at, say, 500 to the acre ...	...	72	...	72	...	...	
	Total ...	29,855	2,161	...	32,016	...	977	
Sátára	Málcolmpet	1,725	1,799	...	3,524	..	...	
	Shirálá	61	23	...	84	...	...	
	Sátára	251	147	...	398	...	...	
	Mán	18	169	...	187	...	..	
	Válva	1,159	665	...	1,824	...	...	
	Khatáv	384	578	...	962	...	...	
	Karád	5,919	597	...	6,516	...	...	
	Tásgaon	786	117	...	903	...	..	
	Khánápur	642	882	...	1,524	...	...	
	Khandála	2,285	623	...	2,908	...	...	
	Pátan	1,021	423	...	1,444	...	...	
	Jávli	4,440	929	..	5,369	...	...	
	Wái	8,387	8,993	...	17,380	...	..	
	Koregaon	3,277	2,065	...	5,342	...	...	
	Total ...	30,355	18,010	...	48,365	...	...	
Sholápur ...	Sholápur	1,019	200	...	1,219	...	366	
	Bársi	153	18	...	171	...	46	
	Mádha	4,623	120	...	4,743	...	104	
	Karmála	1,354	234	...	1,588	...	248	
	Pandharpur	1,830	138	...	1,968	...	84	
	Sángola	236	25	...	261	...	88	
	Málsiras	714	132	...	846	...	176	
	Total ...	9,929	867	...	10,796	...	1,112	
Surat	Dangs	...	980	..	980	...	20	
	Chorási	22	...	...	22	...	...	
	Bulsár	29	4	...	33	...	2	
	Párdi	28	4	...	32	...	2	
	Chikhli	74	50	...	124	...	14	
	Mándvi	102	265	...	367	...	21	
	Railway strips from Vásad to Anand and Nadiád to river Shedi	5 miles.	...	...	5 miles.	...	...	
	Total ...	255 5 miles.	1,303	...	1,558 5 miles.	...	59	
Panch Maháls,	Godhra	170	76	...	246	...	...	
	Kálol	28	16	...	44	...	...	
	Hálol	32	18	...	50	...	...	
	Dohad	22	22	...	44	...	...	
	Jhálod	47	16	...	63	...	...	
	Total ...	299	148	...	447	...	...	
	Total Cultural Operations...	1,00,113 5 miles.	27,957	...	1,28,070 5 miles.	...	4,213	
	Grand Total	1,03,488 5 miles.	29,217	429	1,32,276 5 miles.	...	7,314	

Poona, 25th October 1887,

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

FORM No. 53.

Forest Department, Bombay, Northern Circle.

Trees felled by Government agency during the year 1886-87.
(Selection Fellings.)

Division.	Trees felled. Description.	Number.	Remarks.
North Thána	.....	...	There are no selection fellings in these divisions.
South Thána	.....	...	
East Khándesh	Teak	12,862	
	Anjan...	1,300	
	Bábul...	7,817	
	Salai	163	
	Bor	1,400	
	Khair	2,051	
	Miscellaneous ...	2,872	
	Total ...	28,465	
West Khándesh	Teak	14,915	
	Tivas	522	
	Anjan...	4,132	
	Salai	4,934	
	Bábul	1,261	
	Miscellaneous... ...	46,240	
	Total ...	72,004	
Ahmednagar	Teak	16,809	
	Jambul	4,224	
	Bábul...	1,824	
	Total ...	22,857	
Násik	.....	...	
Poona	Teak	23,659	
	Miscellaneous ...	16,533	
	Total ...	40,192	
Sátára	.....	...	There are no selection fellings in this division.
Sholápur	.....	...	
Surat	Teak	14,540	
	Bábul...	4,190	
	Sadada	2,523	
	Rajaloao	507	
	Total ...	21,760	
Panch Maháls	.....	...	
	Grand Total ...	1,85,278	
	Abstract of the Circle.		
	Teak	82,785	
	Bábul...	15,092	
	Khair	2,051	
	Salai	5,097	
	Bor	1,400	
	Anjan...	5,432	
	Jambul	4,224	
	Tivas	522	
	Miscellaneous ...	68,675	
	Total ...	1,85,278	

A. T. SHUTTLEWORTH,
Conservator of Forests N. C.

Poona, 25th October 1887.

B 691—15 N C

FORM No. 54.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outturn of Timber and Firewood during the year 1886-87.

Division.	Description of Material.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government Agency.	Purchasers.	Free Grants.	Right Holders.	
North Thána.	Teak pieces	...	...	1,72,625	1,72,625	80,326	92,299	...	...	
	Do. ... Cart-loads.	...	...	314	314	314	...	..	...	
	Tivas pieces	...	...	223	223	223	...	...	...	
	Ain rafters	...	...	6,931	6,931	6,931	...	...	...	
	Junglewood	...	...	10,514	10,514	9,523	359	632	...	
	Material for agricultural implements	...	...	3,612	3,612	3,612	...	...	...	
	Firewood .. Khandis.	...	...	3,939	3,939	..	3,939	...	...	
	Do. ... Cart-loads.	...	...	44,122	44,122	28,402	15,720	...	...	
	Do. ... Head-loads.	...	...	28,200	28,200	2,170	26,030	...	...	
				K. m. lbs.	K. m. lbs.	K. m. lbs.				
	Charcoal ... Khandis.	...	...	21 11 0	21 11 0	21 11 0	...	...	...	
	Do. ... Cart-loads	...	...	53	53	...	53	...	...	
	Bámbus	...	...	3,49,448	3,49,448	...	3,49,448	...	...	
	Do. ... Cart-loads.	...	...	6,198	6,198	...	6,198	...	...	
	Do. ... Head-loads.	...	...	12,922	12,922	...	12,922	...	...	
South Thána.	Teak pieces	...	94,152	...	94,152	92,008	1,478	666	...	
	Jnnglewood	...	3,148	..	3,148	2,849	299	...	...	
	Firewood ... Khandis.	...	13,459	..	13,459	11,670	1,789	...	...	
	Do. pieces	...	646	...	646	511	135	...	...	
	Do. ... Head-loads.	...	529	...	529	460	69	...	...	
	Bámbus	...	2,06,283	...	2,06,283	40	2,06,243	..	..	
	Do. ... Cart-loads.	...	222	...	222	...	222	...	...	
	Do. ... Head-loads.	...	1,323	...	1,323	35	1,288	...	...	
East Khándesh.	Teak rafters...	30,064	...	...	30,064	30,064	...	...	...	
	Do. ... Cart-loads.	...	...	45	45	...	45	...	...	
	Do. ... Head-loads.	..	...	1,196	1,196	...	1,196	...	...	
	Do. Buffalo-loads.	...	...	33	33	...	33	...	...	
	Do. Bullock-loads.	...	...	15	15	...	15	...	...	
	Juuglewood pieces	500	...	530	1,030	500	530	...	...	
	Do. ... Cart-loads.	...	...	998	998	...	998	...	...	
	Do. ... Head-loads.	...	...	6,937	6,937	...	6,937	...	...	
	Do. ... Baffalo-loads.	...	...	1,826	1,826	...	1,826	...	...	
	Do. ... Bullock-loads.	...	...	168	168	...	168	...	...	
	Firewood ... Khandis.	5,990	...	...	5,990	5,990	...	...	...	
	Do. ... Cart-loads.	...	...	22,903	22,903	...	22,903	...	...	
	Do. ... Head-loads.	...	...	9	9	...	9	...	...	
	Do. ... Bullock-loads.	...	...	2,305	3,305	...	2,305	...	...	
	Do. ... Donkey-loads.	...	...	1,218	1,218	...	1,218	...	..	
	Do. ... Horse-loads.	...	...	158	158	...	158	...	...	
	Bámbus	...	...	1,77,238	1,77,238	...	1,77,238	...	...	
	Do. ... Head-loads.	...	...	18,692	18,692	...	18,692	...	...	
	Do. ... Bullock-loads.	...	...	4	4	...	4	...	...	
West Khándesh.	Teak pieces	34,208	634	...	34,842	33,124	460	174	...	1,084 remained unsold.
	Do. ... Cart-loads.	...	2,279	...	2,279	...	2,279	...	...	
	Do. ... Head-loads.	...	8,741	...	8,741	...	8,741	...	...	
	Tivas pieces	3,160	828	...	3,988	3,160	185	643	...	
	Junglewood pieces	...	17,515	...	17,515	65	99	17,351	...	
	Do. Cart-loads.	...	4,478	...	4,478	...	4,478	...	...	
	Do. ... Head-loads.	...	4,649	...	4,649	...	4,649	...	...	
	Firewood ... Khandis.	2,310	807	..	3,117	2,817	...	...	...	300 khandis remained unsold.
	Do. ... Cart-loads.	...	28	15,828	15,856	...	15,856	...	...	
	Do. ... Head-loads.	...	...	2	2	...	2	...	...	
	Do. ... Donkey-loads.	...	...	628	628	...	628	...	...	
	Charcoal ... Cart-loads.	...	15	...	15	...	15	...	..	
	Do. ... Head-loads.	...	8,651	..	8,651	...	8,651	...	...	
Ahmednagar.	Teak rafters...	45,686	...	...	45,686	44,498	...	...	...	1,188 remained unsold.
	Jambul rafters	12,838	...	...	12,838	12,838	...	...	...	
	Firwood	1,484	...	....	1,484	1,484	...	...	...	
	Bámbus	...	...	43,692	43,692	...	43,692	...	...	
Násik.	Teak rafters...	...	1,57,638	...	1,57,638	1,25,114	17,769	2,011	...	12,744 rafters not removed.
	Firewood ... Khandis.	...	3,045	...	3,045	2,993	32	...	...	20 khandis not removed.
	Do. .. Cubic feet.	...	2,942	...	2,942	...	2,942	...	...	
	Bámbus	....	...	2,24,699	2,24,699	...	2,24,699	...	...	
	Do. .. Cart-loads	...	...	1,498	1,498	...	1,498	...	...	
	Do. .. Head-loads.	...	...	175	175	...	175	...	...	

FORM No. 54—*continued.*

Division.	Description of Materials.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government Agency.	Purchasers.	Free Grants.	Right Holders.
Poona.	Teak rafters	79,099	...	...	79,099	78,597	479	23	...
	Junglewood rafters ...	10,457	...	...	10,457	9,227	509	721	...
	Firewood ... Khandis.	7,550	...	...	7,550	7,022	323	205	...
	Do. ... Cart-loads.	12	...	...	12	...	...	12	...
	Bámbus	34,912	...	...	34,912	...	34,912	...	...
Sátára.	Teak rafters	...	...	45,802	45,802	45,802	...	...	...
	Junglewood rafters ...	...	9,726	6,255	15,981	7,017	8,314	650	...
	Firewood ...Khandis.	...	324	2,624	2,948	2,810	138	...	...
	Charcoal ... Do.	...	..	24	24	24	...	...	...
	Bámbus	18,649	...	...	18,649	18,649	...	...	...
Sholápur.	Bábul pieces...	...	...	125	125	125	...	...	...
	Sandalwood trees	...	105	...	105	...	105	...	...
	Firewood ... ...Khandis.	...	...	530	530	405	125	...	...
Surat.	Dry teak ... ...Khandis.	657	...	...	657	...	657	...	...
	Green teak ... Do.	558	...	...	558	...	558	...	...
	Teak pieces	14,152	...	616	14,768	13,149	1,003	616	...
	Teak pieces Cart loads.	90	...	13	103	...	90	13	...
	Haladvan ... Khandis.	90	...	...	90	...	90	...	...
	Beo ... ... Do.	100	...	...	100	...	100	...	...
	Tanach ... ... Do.	109	...	...	109	...	109	...	...
	Sadada pieces	525	...	...	525	503	22	...	...
	Do. ... Khandis.	280	...	...	280	...	280	...	...
	Khair pieces	3	...	11	14	...	3	11	...
	Do. ...Khandis.	33	...	...	33	...	33	...	...
	Kánti	27	...	...	27	...	27	...	...
	Junglewood pieces	20,546	...	...	20,546	...	20,546	...	...
	Do. ...Cart-loads.	326	...	...	326	...	326	...	...
	Firewood ... Khandis.	895	...	...	895	812	83	...	...
	Do. ...Cart-loads.	3,756	...	...	3,756	216	3,540	...	...
	Do. pieces	1,466	...	...	1,466	864	602	...	...
	Do. ... Tons.	1,050	...	...	1,050	1,002	48	...	...
	Bámbus	9,00,665	...	...	9,00,665	...	9,00,665	...	...
	Do. ...Cart-loads.	403	...	1	404	...	403	1	...
	Do. ...Head-loads.	2,961	...	...	2,961	...	2,961	...	...
Panch Mahál.	Teak pieces	...	...	98,515	98,515	11,139	69,561	17,815	...
	Do. ...Cart-loads.	...	...	15	15	7	...	8	...
	Junglewood pieces	...	...	5,154	5,154	736	1,678	2,740	...
	Firewood ... Khandis.	...	...	4,708	4,708	1,396	3,312	...	...
	Do. ...Cart-loads.	...	...	1,322	1,322	15	1,307	...	...
	Do. ...Head-loads.	...	...	5	5	5	...	...	...
	Charcoal ... Cart-loads.	...	...	3	3	...	3	...	...
	Do. ...Head-loads.	...	...	5	5	...	5	...	...
	Bámbus	...	...	46,410	46,410	...	46,410	...	...

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

Poona, 25th October 1887.

FORM No. 55.

Forest Department, Bombay, Northern Circle.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right Holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
North Thána.	Apta, brab tree, and temburni leaves.	..	..	..	2,527	..	..	..	..	..	2,527
	Shembi and ain bark ..	343	1,655	..	305	..	..	..	..	343	1,960
	Karvi .. ..Cart-loads.	..	..	1,052	370	..	..	..	..	1,052	370
	Do. .. ..Head-loads.	..	..	2,009	62	..	..	..	..	2,009	62
	Ráb material in cart-loads .	..	..	12	1	..	..	..	..	12	1
	Brab tree and mango fruits.	..	..	..	151	..	..	..	..	..	151
	Stone .. ..Cart-loads.	..	..	702	351	..	..	..	..	702	351
	Total ..	..	1,655	..	3,767	..	..	..	..	..	5,422
South Thána.	Hirda nuts ..Khandis.	172	2,544	..	63	..	..	..	..	172	2,607
	Karvi .. ..Cart-loads.	..	..	1,023	292	..	..	..	..	1,023	292
	Do. .. ..Head-loads.	..	..	1,141	36	..	..	..	..	1,141	36
	Teak, apta, and temburni leaves.	..	..	..	1,534	..	..	..	..	..	1,534
	Chilhari and shembi bark ..	..	..	..	44	..	..	..	..	..	44
	Ráb material in Head-loads.	..	..	150	1	..	..	..	..	150	1
	Thorns .. ..Cart-loads.	..	..	27	9	..	..	..	..	27	9
	Do. .. ..head-loads .	..	..	24	1	..	..	..	..	24	1
	Stone .. ..Cart-loads.	..	..	15	4	..	..	..	..	15	4
	Mowra flowers and fruits ..	..	..	..	2,800	..	..	..	..	..	2,800
	Total ..	..	2,544	..	4,784	..	..	..	..	..	7,328
East Khándesh.	Stones	..	..	100	9	..	..	..	..	100	9
	Do. .. ..Cart-loads.	..	..	1,292	238	..	..	..	..	1,292	238
	Limestones .. Do. ..	..	..	385	48	..	..	..	..	385	48
	Mango fruits	..	..	..	6	..	..	..	..	..	6
	Manure	..	..	..	1	..	..	..	..	..	1
	Total ..	..	..	..	302	..	..	..	..	..	302
West Khándesh.	Rosha grass stills	..	..	218	7,250	..	..	..	..	218	7,250
	Grass .. ..Cart-loads.	..	..	48	6	..	..	..	..	48	6
	Stone .. Do. ..	..	..	1,661	208	..	..	..	..	1,661	208
	Reed .. Do. ..	..	..	266	33	..	..	..	..	266	33
	Manure .. Do. ..	..	..	1,127	65	..	..	..	..	1,127	65
	Thorns .. Do. ..	..	..	858	96	..	..	..	..	858	96
	Earth .. Do. ..	..	..	155	19	..	..	..	..	155	19
	Anjan leaves	..	..	..	3	..	..	..	..	..	3
	Mango fruits	..	..	..	161	..	..	..	..	..	161
	Total ..	..	..	..	7,901	..	..	..	..	..	7,901
Ahmednagar.	Hirda nuts ..Khandis.	12	203	275	3,743	..	..	..	..	287	3,946
	Grazing	..	..	..	26,063	..	..	..	..	..	26,063
	Tarvad	..	..	..	564	..	..	..	..	..	564
	Teak and bhendi leaves ..	..	..	..	5	..	..	..	..	..	5
	Stone .. ..Cart-loads.	..	..	3,804	235	..	..	..	..	3,804	235
	Earth .. Do. ..	..	..	150	5	..	..	..	..	150	5
	Karvi .. ..Head-loads.	..	..	2,395	79	..	..	..	..	2,395	79
	Manure	..	..	..	20	..	..	..	..	..	20
	Thorns	..	..	83	7	..	..	..	..	83	7
	Reeds	..	..	..	27	..	..	..	..	..	27
	Fruit sales	..	..	..	47	..	..	..	..	..	47
	Total ..	..	203	..	30,795	..	..	..	..	..	30,998
Nasik.	Hirda nuts ..Khandis.	27	1,231	..	..	..	..	..	..	27	1,231
	Grazing	..	..	..	37,777	..	..	..	..	..	37,777
	Grass .. ..Cart-loads.	..	..	710	54	..	..	..	..	710	54
	Thorns .. .. Do. ..	..	..	683	162	..	..	..	..	683	162
	Ráb material .. Do. ..	..	..	209	75	..	..	..	..	209	75
	Do. ..Head-loads.	..	..	961	50	..	..	..	..	961	50
	Karvi .. ..Head-loads.	..	..	19,244	340	..	..	..	..	19,244	340
	Grass oil furnaces	..	..	74	782	..	..	..	..	74	782
	Catechu	..	..	89	1,424	..	..	..	..	89	1,424
	Stone .. .. Cart-loads.	..	..	831	41	321	40	..	..	652	81
	Do. .. .. Head.	..	..	1,325	21	20	11	..	..	1,345	32
	Manure .. .. Cart-loads.	..	..	217	289	..	..	..	..	217	289
	Earth .. Do. ..	..	..	..	..	150	20	..	..	150	20
	Total ..	..	1,231	..	3,238	..	71	..	..	..	4,540
Poona.	Hirda nuts	169	1,532	..	..	..	..	..	..	169	1,532
	Grass and grazing by sale.	..	..	..	46,591	..	55,000	..	..	..	1,01,591
	Do. by fee system.	..	..	..	1,117	..	..	..	..	..	1,117
	Stone .. ..Cart-load.	..	..	682	491	2,900	725	..	..	3,582	1,216
	Do. in cubic feet	..	..	80,006	..	..	..	..	..	80,006	
	Mango and tamarind fruits.	..	..	3,250 / 1 Mds.	10	..	..	..	..	3,250 / 15 Mds.	10
	Leaves of teak and other trees.	..	..	40	38	..	..	..	..	40	38
	Karvi, standing	..	..	118	331	..	..	..	..	118	331
	Shikakái	..	..	..	55	..	..	..	..	..	55
	Earth	..	..	..	7	..	..	..	..	..	7
	Roots of wild plantain trees.	..	..	500	4	..	..	..	..	500	4
	Palm tree (juice)	..	..	508	32	..	..	..	..	508	32
	Bábul bark	..	..	..	47	..	..	..	..	..	47
	Ráb .. .. ..Loads.	..	..	..	..	23,250	725	..	..	23,250	725
	Total ..	..	1,532	..	48,773	..	56,450	..	..	..	1,06,755

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right Holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
Sátára.	Grass and grazing by auction.	..	..	..	37,127	..	..	..	..	..	37,127
	Stone .. .. Cart-loads.	..	..	3,971	2,811	..	..	..	..	8,871	2,811
	Do. .. .. Head-loads.	..	..	4,871						4,871	
	Hirda nuts	281	10,309	..	..	..	..	..	..	281	10,309
	Shikakái	70								70	
	Thorns.. .. Bundles.	915								915	
	Teak leaves	5								5	
	Total ..	..	10,309	..	39,938	..	..	..	..	..	50,247
Sholápur.	Bábul bark	3	17	..	..	..	..	..	..	3	17
	Teak leaves	..	..	..	2	..	..	..	..	..	2
	Gum	..	..	..	21	..	..	..	..	..	21
	Earth	..	..	..	1	..	..	..	..	..	1
	Tamarind fruits	..	..	..	6	..	..	..	..	..	6
	Total ..	..	17	..	30	..	..	..	..	..	47
Surat.	Grass by auction	..	..	..	526	..	..	..	..	..	526
	Do. by fee system ..	..	..	..	744	..	..	..	..	..	744
	Moura flowers	..	..	1,161	163	..	..	..	..	1,161	163
	Do. .. Cart-loads.	..	..	20	20	..	..	..	..	20	20
	Grass .. Do.	..	..	476	130	..	..	..	..	476	130
	Bámbu mats	..	..	3,249	107	..	..	..	..	3,249	107
	Ashindra leaves. Bundles.	..	..	9,61,925	194	..	..	..	..	9,61,925	194
	Temburni leaves Cart-loads.	..	..	327	191	..	..	..	..	327	191
	Honey and wax Maunds.	..	..	171	67	..	..	..	..	171	67
	Sadada bark .. Maunds.	..	..	271	17	..	..	..	..	271	17
	Catechu furnaces	..	..	..	825	..	..	..	..	..	825
	Total ..	..	..	..	2,984	..	..	..	..	..	2,984
Panch Mahals.	Grass sales	..	..	..	2,376	..	..	..	..	..	2,376
	Grazing fees	..	..	..	4,688	..	..	..	..	..	4,688
	Stone .. .. Cart-loads.	..	..	17,649	114	..	..	..	..	17,649	114
	Sand	..	..	45,681	57	..	..	..	..	45,681	57
	Mowra flowers	..	..	..	2,305	..	..	..	..	..	2,305
	Thorns.. .. Cart-loads.	6	1	26	7	..	..	..	..	32	8
	Seed	59	119	..	..	..	..	..	..	59	119
	Atedi bark .. .. Bags.	14	9	..	..	..	..	..	..	14	9
	Wax	..	..	..	89	..	..	..	..	..	89
	Honey										
	Mango fruits										
	Total ..	..	129	..	9,636	..	..	..	..	..	9,765

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

Poona, 25th October 1887.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1886-87.

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Balance at commencement of the year.				
North Thána ... Teak pieces	8,918	.....		
North Thána ... Ain	80	.....		
North Thána ... Agricultural implements	1,039	.....		
North Thána ... Miscellaneous ...	1,099	.....	1,136	
South Thána ... Teak pieces ...	27,257	.....	27,257	
East Khándesh ... Sisu rafters ...	248	.....		
East Khándesh ... Tivas	233	.....		
East Khándesh ... Teak	6,151	.....	6,632	
West Khándesh, Teak pieces... ...	1,154	.....		
West Khándesh, Do. logs	1,297	.....		
West Khándesh, Do. rafters ...	6,232	.....		
West Khándesh, Do. kadies ...	3,933	.....		
West Khándesh, Ain logs	5	.....	12,621	
Násik ... ... Teak rafters ...	4,465	.....	4,465	
Ahmednágar ... Teak rafters ...	11,791	.....		
Ahmednágar ... Miscellaneous do. ...	26	.....		
Ahmednágar ... Confiscated do. ...	13	.....	11,830	
Sátára ... ... Raival rafters ...	7,295	.....	7,295	
Panch Mahála ... Teak beams ...	136	.....		
Panch Mahála ... Do. poles	111	.....		
Panch Mahála ... Do. rafters ...	11,569	.....		
Panch Mahála ... Do. pieces... ...	26	.....		
Panch Mahála ... Miscellaneous ...	2	.....	11,844	
Total Balance ...	.....	.....	93,080	

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER.				
Sold locally.				
Teak pieces	1,38,056	.....		
Do. rafters	3,52,267	.....		
Do. logs	1,297	.....		
Do. kadis	3,933	.....		
Do. trees	2	.....		
Do. poles	8	.....		
Do. posts	76	.....		
Blackwood pieces	115	.....		
Jambul rafters	8,817	.....		
Agricultural implements	2,353	.....		
Ain rafters	6,931	.....		
Tivas pieces	3,383	.....		
Bábul logs	125	.....		
Mixed injailiwood pieces	12,552	.....		
Raival rafters	7,737	.....		
Miscellaneous	2,178	.....	5,39,830	
Removed by Purchasers from Depôts.				
Teak rafters	91,562	.....		
Do. beams	136	.....		
Do. poles	146	.....		
Do. pieces	38	.....		
Miscellaneous	2	.....	91,884	
Lost or written off.				
Sisu rafters	248	.....		
Tvias	233	.....		
Miscellaneous poles	1	.....	482	
Free Grants.				
Teak rafters	749	.....	749	

Received from the Forests in Depôts.			
Teak beams	8	.....	
Do. trees...	2	.....	
Do. rafters	4,33,363	.....	
Do. poles	2,752	.....	
Blackwood pieces...	115	.....	
Tivas pieces	3,383	.....	
Teak posts...	135	.....	
Do. pieces	1,50,736	.....	
Ain logs, rafters, &c.	6,851	.....	
Do. pieces	.....	.....	
Agricultural implements	2,573	.....	
Jambul rafters	12,838	.....	
Bábul logs..	125	.....	
Mixed kind of wood and pieces	11,743	.....	
Junglewood rafters	10,258	.....	
Miscellaneous	3,230	.....	
Cart-loads of teak pieces	7	.....	
			6,38,115 Carts 7
Total ...	.....	.....	7,31,195 Carts 7

Supplied to other Departments.			
Teak rafters	5,953	.....	
Do. poles	2,596	.....	
Junglewood rafters	8,314	.....	
			16,863
Used by the Department.			
Teak rafters	49	.....	
Junglewood rafters	425	.....	
			474
Balance at the close of the year.			
			6,50,282
North Thána ... Teak logs, rafters, &c. ...	9,344	.....	
North Thána ... Material for agricultural implements	1,259	.....	
North Thána ... Mixed kinds of wood pieces	563	.....	
			11,166
South Thána ... Teak pieces	9,200	.....	9,200
West Khándesh. Teak rafters	1,653	.....	
West Khándesh. Do. pieces	1,056	.....	
West Khándesh. Ain logs	5	.....	
			2,714
Ahmednagar ... Teak rafters	3,741	.....	
Ahmednagar ... Jambul rafters	4,575	.....	
			8,316
Násik ... ... Teak rafters	11,644	.....	11,644
Sátára ... ... Junglewood rafters ...	1,077	.....	1,077
Surat ... ... Teak pieces	30,461	.....	
Surat ... ... Ain pieces	2,002	.....	
Surat ... ... Junglewood pieces ...	696	.....	
			33,159
Panch Maháls... Teak beams	8	.....	
Panch Maháls... Do. poles	83	.....	
Panch Maháls... Do. rafters	2,368	.....	
Panch Maháls... Do. pieces	210	.....	
Panch Maháls... Do. do.	Carts 7	.....	
Panch Maháls... Do. posts	13	.....	
Panch Maháls... Miscellaneous pieces ...	19	.....	
Panch Maháls... Do. poles ...	30	.....	
Panch Maháls... Do. rafters ...	360	.....	
Panch Maháls... Do. posts ...	46	.....	
			3,137 Carts 7
Total ...	.....	.....	7,31,195 Carts 7

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
		K. m. lbs.		K. m. lbs.
Balance at commencement of the year.				
North Thána ... Teak firewood ...	Carts 275	.....		
North Thána ... Firewood	.....	6,380 0 0		
North Thána ... Charcoal	.....	21 0 0	275	6,401 0 0
South Thána ... Firewood	.....	6,166 12 0		
South Thána ... Do. heaps ...	284¾	.....	284¾	6,166 12 0
West Khándesh... Firewood	.....	2,554 0 0	.....	2,554 0 0
East Khándesh ... Do.	.....	980 0 0	.....	980 0 0
Násik ... ... Do.	.....	75 0 0	.....	75 0 0
Ahmednagar ... Do.	.....	219 1 11	.....	219 1 11
Sátára ... ... Firewood	.....	181 21 0		
Sátára ... ... Charcoal	.....	23 14 14	.....	205 7 14
Surat ... ... Firewood	Carts 100	Tons 952	Carts 100	Tons 952
				K. m. lbs.
Panch Maháls ... Do.	.....	9,124 0 0	.....	9,124 0 0
Total Balance ...	.....	.....	Carts 375 Heaps 284¾	25,724 20 25 Tons 952
Received from the Forests in Depôts.				
Teak firewood ... ...Cart-loads.	8,177	.....		
Do. ... ... No.	2,737	1,003 17 0		
Junglewood firewood ...Cart-loads.	14,844	1,816 0 0		
Do. ... ... No.	151	.....		
Do. ... ...Head-loads	2,635	.....		
Teak chippings ... ...Cart-loads.	7	.....		
Teak and junglewood pieces fit for firewood	134	.....		
Fiwood pieces	522	.....		
Fiwood ... ... Bullock-loads.	255	.....		
Do.	.....	35,284 26 10½		
Do. ... ... Tons.	.....	212 0 0		
Charcoal	.....	12 27 10		
Miscellaneous	9,297	.....		
			38,759	38,117 14 20½

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
		K. m. lbs.		K. m. lbs.
FIREWOOD. *Sold locally.*				
Teak firewood ... ... Cart-loads.	7,556	1,058 17 0		
Do. ... ... No.	1,637	.....		
Junglewood firewood ... ... Cart-loads.	11,896	.....		
Do. ... ... Head-loads	2,635	.....		
Teak chippings ... ... Cart-loads.	7	.....		
Teak and junglewood pieces fit for firewood.	109	.....		
Firewood pieces ... ... No.	522	.....		
Firewood heaps	284¾	.....		
Bullock loads of firewood	255	.....		
		Tons.		
Firewood	.....	1,013		
Miscellaneous	9,227	.....		
		K.		
Junglewood firewood	151	1,816		
Firewood	.....	50,457 3 9½		
Charcoal	.....	29 1 24	34,349¾	53,360 22 5½
Removed by Purchasers from Depôts.				
Firewood	.....	1,924 0 0	.....	1,924 0 0
Carried to Depots.				
Firewood	.....	1,191 9 0		
Charcoal	.....	15 10 4		1,206 19 4
Lost or written off.				
Firewood	.....	57 10 0	.....	57 10 0
Used by the Department.				
Firewood	.....	27 12 0		
Charcoal	.....	0 1 24		27 13 24
			34,349¾	56,576 9 5½ Tons 1,013
Balance at the close of the year.				
North Thána ... Injaili firewood	2,948	.....		
North Thána ... Teak and junglewood pieces fit for firewood.	25	.....		
			2,973	

South Thána	Firewood	.....	4,835 11 0	.....	4,835 11 0				
West Khándesh	Do.	.....	530 0 0	.....	530 0 0				
Ahmednagar	Do.	.....	62 10 12	.....	62 10 12				
Násik	Do.	1,100	20 0 0	1,100	20 0 0				
Sátára	Do.	.....	179 5 0	.....					
Do.	Charcoal	.....	13 0 0	.....	192 5 0				
Surat	Teak firewood	Carts 550	Tons 151	.....					
	Sadada do.	„ 250	.....	.....					
	Junglewood do. ...	„ 196	315 0 0	996 carts	K. Tons. 315 151				
Panch Mahál ...	Firewood	.....	1,311 0 0	.....	1,311 0 0				
	Total Balance ...	.....	.....	.....	7,265 26 12 Tons 151				
	Total ...	.....	.....	39,418¾	63,842 7 17½ Tons 1,164				

BAMBUS.

Balance at commencement of the year.					
Sátára	Bámbus.	11,277	.....	11,277	.....
PanchMahál	Do.	13	.....	13	.....
	Total ...	.....	.....	11,290	.....
Received from the Forests in Depôts.					
Bámbus	No.	34,398	.....	.....	.....
Do.	Head-loads	99	.....	.....	.....
Do.	Carts.	35	.....	34,532	.....

Sold locally.			
Bámbus	9,169	.....	
Do. ... ... Head-loads.	99	.....	9,268
Removed by Purchasers.			
Bámbus	639	.....	639
Supplied to Salt Department.			
Bámbus	14,521	.....	14,521
Used by the Department.			
Bámbus	132	.....	132
Carried to Depôts.			
Bámbus	10,976	.....	10,976
			35,536

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
BA'MBUS—*continued.*				
Balance at close of the year.				
Sátára ... ...Bámbus	10,251	.....	10,251	
Panch Maháls ... Do. ... Carts.	35	.....	35	
Total Balance ...	.....	.....	10,286	
Total ...	.....	.....	45,822	.....
OTHER MINOR PRODUCE.				
Balance at commencement of the year.		K. m. lbs.		K. m. lbs.
South Thána ... Hirda	.....	40 21 11	.....	
Dhávda leaves ...	.....	0 6 0	.....	
Seed	.....	4 23 2½	.....	
				45 22 13½
Násik ... ... Hirda	.....	5 13 5	.....	5 13 5
Ahmednagar ... Hirda	.....	49 9 21	.....	
Seed	.....	27 21 1	.....	
				77 2 22
Poona ... ... Hirda	.....	138 22 25	.....	138 22 25
Sátára ... ... Hirda	.....	229 0 11¼	.....	
Seed	.....	12 10 9	.....	
Shigekái	.....	70 7 6½	.....	
				311 17 26¼
Surat ... ... Bábul thorn ... Carts.	225	.....	225	.....
Panch Maháls ... Seed	.....	1 1 4¼	.....	
				1 1 4¼
Total ...	.....	.....	225	579 24 12½
Received from the Forests in Depôts.				
Cart-loads of thorns	212	.....	.....	.....
Kada pods ... ... Bundles.	6	.....	.....	.....
Atedi bark ... ... Bags.	14	.....	.....	.....

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Sold locally.		K. m. lbs.		
Cart-loads of thorns	245	.....		
Kada pods ... ... Bundles.	6	.....		
Atedi bark ... ... Bags.	14	.....		
Thorn ... ... Head-loads.	6	.....		
Do. ... ... Bundles.	965	.....		
Zitta ... ... Head-loads.	6	.....		
Téak leaves ... ... Bundles.	5	.....		
Dhávda ... ... Sticks.	57	.....		
Karvi ... ... Cart-loads.	6	.....		
Do. ... ... Head-loads.	81	.....		
Táhál ... ... Cart-loads.	2,043	.....		
Do. ... ... Head-loads.	201	.....		
Bábul bark	.....	3 8 0		
Ain bark	.....	343 0 0		
Corn	.....	8 19 20		
Shikakái	.....	76 2 3½		
Hirda	.....	1,129 17 5½		
Grass ... ... Bundles.	1,000	.....	4,635	K. m. lbs. 1,560 19 1
Lost or written off as drayage.				
Hirda	.....	95 20 23¾		
Shikakái	.....	18 10 7		
Dhávda leaves	.....	0 6 0	.....	114 9 2¾

Thorn	Head-loads.	6	.....	.....	.....	
Do.	Bundles.	965	.....	.....	.....	
Zitta	Head-loads.	6	.....	.....	.....	
Teak leaves	Bundles.	5	.....	.....	.....	
Dhávda sticks		57	.....	.....	.....	
Do. leaves		.....	0 6 0	.....	.....	
Karvi	Cart-loads.	6	.....	.....	.....	
Do.	Head-loads.	81	.....	.....	.....	
Táhál	Cart-loads.	2,043	.....	.....	.....	
Do.	Head-loads.	201	.....	.....	.....	
Bábul bark		.....	3 8 0	.....	.....	
Ain bark		.....	379 0 0	.....	.....	
Corn		.....	8 19 20	.....	.....	
Shikakái		.....	24 5 4	.....	.....	
Hirda		.....	913 5 17	.....	.....	
Seed		.....	219 15 25¼	.....	.....	
Grass	Bundles.	1,000	.....	.....	.....	
Total ...		.....	.....	4,827	2,128 0 12¾	

Used by the Department.					
Seed	.....	209 24 13¾			
Hirda	.....	2 13 19½	.....	212 10 5¼	
			4,635	1,887 10 9	
Balance at close of the year.					
North Thána ... Ain bark	.....	36 0 0			
South Thána ... Hirda nuts	.....	0 12 12			
South Thána ... Seed	.....	14 21 5			
Ahmednagar ... Seed	.....	14 7 22			
Násik ... ... Hirda	.....	1 18 24			
Poona ... ... Hirda	.....	1 16 20			
Sátára ... ... Hirda	.....	145 7 3½			
Sátára ... ... Seed	.....	25 26 26			
Surat ... ... Babul thorn ...Carts.	186	.....			
Panch Mahális ... Do. ...	6	.....			
Do. ... Seed	.....	0 19 3½			
Total Balance ...	.....	.....	192	240 18 3¾	
Total ...	.....	.....	4,827	2,128 0 12¾	

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. D.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1886-87.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
North Thána.		K. m. s.	Rs.		K. m. s.	Rs.	Rs.	Rs.	
Teak pieces	8,918	.....	3,000	9,344	.....	2,500			
Ain do.	80	.....	10	...	.....	...			
Miscellaneous junglewood pieces... ...	1,099	.....	200	563	.....	200			
Material for agriculture implements ...	1,039	.....	200	1,259	.....	300			
Charcoal	...	21 0 0	20	...	.....	...	...	1,753	
Teak firewood ...Cartloads.	275	.....	275	...	.....	...			
Junglewood firewood...	...	6,380 0 0	3,030	...	2,948 0 0	1,800			
Do. firewood pieces	...	.....	...	25	.....	2			
Ain bark	...	.....	...	36	.....	180			
Total ...	...	.....	6,735	...	.....	4,982	...	1,753	
South Thána.									
Teak pieces	27,257	.....	11,000	9,200	.....	4,600			
Firewood	...	6,166 12 0	3,000	...	4,835 11 0	205			
Do.	284¾	.....		...	.....	...			
Hirda nuts	...	40 21 11		...	0 12 6	6	...	10,004	
Miscellaneous seed ...	...	4 24 2½	815	...	14 21 5				
Dáhvda leaves ...	...	0 6 0		...	.....	...			
Total ...	...	.....	14,815	...	.....	4,811	...	10,004	
East-Khándesh.									
Teak rafters	6,151	.....	1,107	...	.....	...	...	1,107	
Tivas do.	233	.....	50	...	.....	...	...	50	
Sisu do.	248	.....	100	...	.....	...	...	100	
Firewood	...	980 0 0	367	...	.....	...	...	367	
Seed	...	.....	...	...	5 2 10	...	...	...	
Total ..	...	.....	1,624	...	.....	...	...	1,624	
West Khándesh.									
Teak rafters	6,232	.....	623	1,653	.....	10			
Do. logs	1,297	.....	648	...	.....	...			
Do. kadies	3,933	.....	196	...	.....	...			
Do. pieces	575	.....	28	1,056	.....	52	...	2,424	
Do. square pieces ...	579	.....	57	...	.....	...			
Ain logs	5	.....	20	5	.....	20			
Firewood	...	2,554 0 0	1,277	...	530 0 0	343			
Total ...	...	.....	2,849	...	.....	425	...	2,424	
Ahmednagar.									
Teak rafters	11,830	.....	347	3,744	.....	182	...	165	
Firewood	...	296 4 5		...	62 10 12				
Jambul rafters ...	...	.....	...	4,575	.....				
Seed	...	.....	...	...	14 7 22				
Total ...	...	.....	347	...	.....	182	...	165	
Násik.									
Teak rafters	4,465	.....	905	11,644	.....	1,530			
Firewood	...	75 0 0	40	1,100	20 0 0	20	325	...	
Hirda	...	5 13 5	350	...	1 18 24	70			
Total ...	...	.....	1,295	...	.....	1,620	325	...	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
		K. m. s.	Rs.		K. m. s.	Rs.	Rs.	Rs.	
Poona.									
Hirda	...	138 22 25	2,065	...	1 16 20	...	...	2,065	
Total ...	...	.....	2,065	...	.....	....	...	2,065	
Sátára.									
Junglewood logs ...	7,295	.....	900	1,077	.....	1,000			
Firewood	...	181 21 0	180	...	179 5 0	175			
Charcoal	...	23 14 14	120	...	13 0 0	75			
Hirda	...	229 0 11¼	1,000	...	145 7 3½	950	...	...	
Shikakái	...	70 7 6½		...	.....	...			
Seed	...	12 10 9	...	...	25 26 26	...			
Bámbus	11,277	.....	100	10,251	.....	100			
Total ...	...	.....	2,300	...	.....	2,300	...	...	
Sholápur.									
Nil.	...	.....	...	...	.....	...	...	...	
Surat.									
Teak pieces	...	.....	...	30,461	.....	23,500			
Sadada pieces	...	.....	...	2,002	.....	1,000			
Rajalu do.	...	.....	...	696	.....	300			
		Tons.			Tons.				
Firewood	...	952 0 0	4,760	...	151 0 0	715			
	Carts.			Carts.			21,675	...	
Thorns..	225	.....	21	186	.....	...			
		K. m. s.							
Teak firewood... ...	...	75 0 0	44	550	.....	550			
					Kh. m. s.				
Ain Rajalu firewood ...	...	.....	...	446	315 0 0	435			
Total ...	...	.....	4,825	...	.....	26,500	21,675	...	
Panch Maháls.									
Teak beams	136	.....	600	8	.....	16			
Do. poles	111	.....	82	83	.....	79			
Do. rafters, 1st class .	822	.....	149	870	.....	110			
Do. do. 2nd class.	10,686	.....	705	1,468	.....	78			
Do. pieces	26	.....	35	210	.....	100			
				Carts.					
Do. do.	...	.....	...	7	.....	21			
Miscellaneous pieces ...	2	.....	3	19	.....	13			
Teak rafters	61	.....	10	...	.....	...			
				Carts.			...	7,492	
Bámbus	13	.....	...	35	.....	70			
Firewood	...	9,124 0 0	7,100	...	1,311 0 0	650			
Seed	...	0 29 0 3/20	29	...	0 19 3¼	19			
Teak posts	...	.....	...	13	.....	10			
Miscellaneous poles ...	...	.....	...	30	.....	15			
Do. rafters...	...	.....	...	360	.....	16			
Do. posts ...	...	.....	...	46	.....	22			
				Carts.					
Thorns	...	.....	...	6	.....	2			
Total ...	...	.....	8,713	...	.....	1,221	...	7,492	

Net difference against the year—Rs. 3,527

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

B 691—18 N C

FORM No. 57A.

Forest Department, Bombay, Northern Circle.

Abstract showing the Value of Live and Dead Stock for the year 1886-87.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
North Thána Division.							
Tungár bungalow	1	1,200	1	1,200	...	...	Removed to Parol.
Náka-house at Mándvi ...	1	250	1	250	...	...	
Forest stations	...	...	38	570	...	...	
Do. posts	...	...	82	820	...	...	
Office tent	1	273	1	273	...	...	
Tools, plant and office furniture .	...	2,066	...	2,648	...	...	
Total ...	...	3,789	...	5,761	1,972	...	
South Thána Division.							
Office tent	1	273	1	273	...	...	
Small rowties	...	...	2	186	...	...	
Tools, plant and office furniture .	...	233	...	455	...	...	
Total ...	...	506	...	914	408	...	
East Khándesh Division.							
Office tent	1	248	1	248	...	...	
Rowtie	1	100	1	100	...	...	
Tools, plant and office furniture .	...	83	...	473	...	...	
Total ...	...	431	...	821	390	...	
West Khándesh Division.							
Office rowti	1	85	1	85	...	...	
Tools, plant and office furniture .	...	405	...	429	...	...	
Total ...	...	490	...	514	24	...	
Násik Division.							
Office tents	2	300	2	300	...	...	
Tools, plant and office furniture, .	...	229	...	229	...	...	
Total ...	...	529	...	529	...	...	
Ahmednagar Division.							
Sleeping pal 12′ × 12′, double fly .	1	246	1	246	...	...	
Office-room, Range Forest Officer, Karjat	1	214	1	214	...	...	
Hirda depôt, Shingaṅvádi ...	1	25	1	25	...	...	
Forest rest-houses	3	90	3	90	...	...	
Tools, plant and office furniture .	...	1,958	...	2,045	...	...	
Total ...	...	2,533	...	2,620	87	...	
Sholápur Division.							
Office tent	...	...	1	100	...	...	
Tools, plant and office furniture .	...	231	...	231	...	...	
Total ...	...	231	...	331	100	...	

FORM No. 57A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Sátára Division.							
Bungalow at Málcolmpeth ...	1	700	1	700	...	....	
Pall with double fly ...	1	245	1	245	...	...	
Tools, plant and office furniture .	...	602	...	616	...	...	
Total ...	...	1,547	...	1,561	14	...	
Poona Division.							
Office tent	...	...	1	273	...	...	
Tools, plant and office furniture .	...	...	...	345	..	...	
Total ...	...	...	...	618	...	...	
Sátat Division.							
Office tent, 12 feet	1	246	1	246	...	...	
Large Lilápur bungalow ...	1	...	1	...	...	...	Value cannot be found.
Small do. do. ...	1	...	1	...	...	...	Do. do.
Gandewa bungalow ...	1	...	1	...	...	...	Do. do.
Andhatri do. ...	1	291	1	291	...	...	
Dadhwáda do. ...	1	30	1	30	...	...	
Large Waghai bungalow ...	1	} 1,099	1	} 1,099	...	...	
Small do. do. ...	1		1		...	...	
Large Pimpri do. ...	1	499	1	499	...	...	
Do. Garvi do. ...	1	1,012	1	1,012	...	...	
Small do. do. ...	1	288	1	288	...	...	
Tools, plant and office furniture .	...	1,950	...	1,964	...	...	
Total ...	...	5,421	...	5,429	8	...	
Panch Mahál Division.							
Rest-houses and depôts ...	3	153	20	1,853	...	...	
Bungalow	1	8,200	1	8,200	...	...	
Office rowtie with carpets ...	1	273	1	273	...	...	
Tools, plant and office furniture .	...	495	...	906	...	...	
Total ...	...	9,121	...	11,232	2,111	...	
Working Plans Division.							
Office tent	...	...	1	285	...	...	
Tools, plant and office furniture .	...	...	...	1,022	...	...	
Total ...	...	...	...	1,307	1,307	...	
Direction.							
Office tent, 14′ × 14′ ...	1	432	1	432	...	...	
Office rowtie	1	95	1	95	...	...	
Tools, plant and office furniture .	...	128	...	128	...	...	
Total ...	...	655	...	655	...	...	

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1886-87.

Budget Heads.	Direction.	Ahmednagar Division.	East Khándesh Division.	West Khándesh Division.	Násik Division.	Panch Mahális Division.	Poona Division.	Sátára Division.	Sholápur Division.	Surat Division.	North Thána Division.	South Thána Division.	Working Plans Division.	Total.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other Produce removed from the Forests by Government agency—														
a. Timber	....	8,411 13 1	7,855 14 11	10,717 13 7	36,894 14 5	9,324 5 11	19,406 7 6	12,660 5 5	160 14 0	8,820 0 7	66,072 3 7	55,583 10 10	....	2,35,908 7 10
b. Firewood and charcoal	....	1,440 12 6	4,497 8 0	3,622 14 0	2,212 11 3	2,783 4 0	13,229 14 0	3,345 8 6	733 2 6	6,414 15 0	18,070 14 9	9,067 10 6	....	65,419 3 0
c. Bámbus	....	....	0 1 0	....	....	1,054 3 0	....	292 3 6	....	....	....	....	....	1,346 3 0
d. Sandalwood	....	0 11 0	....	....	....	....	....	3 9 6	....	....	....	....	....	4 4 6
e. Grass and other minor produce	....	3,747 0 6	....	....	1,235 4 10	....	3,560 12 3	10,309 4 2	17 6 3	....	1,667 2 11	3,464 9 8	....	24,001 8 7
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—														
a. Timber	....	77 7 10	2,442 4 3	16,266 7 9	17,145 11 2	23,992 6 8	124 1 6	891 12 7	34 15 3	29,701 5 4	81,671 1 3	14,269 11 9	....	1,86,617 5 4
b. Firewood and charcoal	....	410 2 0	6,127 5 6	4,438 7 6	1,048 8 2	792 5 0	665 11 6	205 13 3	197 5 9	1,724 13 9	16,796 10 5	955 1 2	....	33,362 4 0
c. Bámbus	....	438 5 0	4,337 10 11	2,473 7 3	4,075 3 0	422 2 6	369 9 0	298 11 3	....	17,403 13 5	11,774 10 3	5,169 14 8	....	46,763 7 3
d. Grazing and fodder grass	....	27,199 12 11	26,953 7 6	33,411 0 0	37,831 5 0	7,564 1 0	47,707 11 9	37,156 8 0	5,732 2 9	1,274 15 0	9,978 8 0	2,316 5 8	....	2,37,125 13 7
e. Other minor produce	....	1,004 1 9	391 8 6	7,896 9 0	3,648 12 7	2,619 14 3	1,102 4 9	2,811 7 6	34 6 0	1,831 5 1	3,775 11 7	4,862 3 3	....	29,888 4 3
III.—Confiscated, Drift, and Waif Wood	....	350 12 1	230 7 6	1,494 3 0	309 11 2	45 0 10	430 11 6	88 6 11	7 12 9	819 13 2	2,207 2 0	1,698 11 0	....	7,682 11 11
IV.—Revenue from Forests not managed by Government.														
a. Duty on foreign timber and other forest produce	....	....	8,299 13 0	9,775 7 6	310 7 9	....	....	....	....	....	....	0 0 5	....	18,385 12 8
b. Revenue from shared and private forests	....	....	....	....	....	281 9 0	1,229 4 0	12 4 0	....	94 13 2	2,332 14 9	2,100 5 4	....	6,051 2 3
V.—Miscellaneous—														
a. Fines and forfeitures	....	2 7 2	10 0 8	....	436 0 6	61 10 9	921 13 3	105 9 9	142 8 3	35 0 0	111 1 7	2,490 3 7	....	4,366 2 6
b. Refunds	....	50 8 1	8 8 11	2 7 10	82 13 6	441 9 10	213 3 9	25 14 7	....	6 7 7	10 7 7	18 4 3	....	810 5 11
c. Other sources	25 4 0	982 15 0	824 3 2	804 2 0	1,355 2 3	1,042 0 1	966 12 9	893 9 3	832 10 9	1,576 13 1	4,719 6 1	1,844 11 6	....	15,367 9 11
Total Revenue	25 4 0	44,116 12 11	61,888 14 4	90,902 15 5	1,06,586 9 7	50,424 8 10	89,928 5 6	69,101 0 2	7,392 15 3	69,704 3 2	2,19,187 14 9	1,03,841 7 7	....	9,13,100 15 6
EXPENDITURE.														
A.—CONSERVANCY AND WORKS.														
I.—Timber and other Produce removed from the Forests by Government agency—														
a. Timber	....	1,188 14 9	1,778 4 6	2,767 7 6	5,785 3 4	514 14 8	1,889 3 6	1,855 15 6	14 0 3	2,583 2 4	11,811 14 7	16,583 1 9	....	46,777 2 8
b. Firewood and charcoal	....	159 11 9	1,796 3 0	989 9 0	690 5 0	....	1,093 5 6	1,154 4 9	98 14 0	462 9 0	6,476 0 10	672 14 8	....	13,593 13 6
c. Bámbus	....	....	....	....	....	211 2 0	....	126 11 11	....	....	....	....	....	337 13 11
d. Sandalwood	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Grass and other minor produce	....	1,455 15 3	....	....	1,116 15 3	....	....	5,427 11 5	0 11 0	....	294 15 3	1,237 12 0	....	10,443 14 3
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	....	658 1 6	167 13 9	118 5 8	711 12 4	673 9 9	809 14 1 21 4 0	298 1 11	....	1,957 10 4	4,715 12 5	1,325 5 4	....	10,647 13 0
III.—Confiscated, Drift, and Waif Wood	....	9 8 5	6 6 4	0 6 7	16 13 6	..	6 10 0	1 5 0	....	6 10 11	33 0 8	7 3 0	....	93 0 5

IV.—Revenue from Forests not managed by Government—														
a. Duty on foreign timber and other forest produce	....	....	2,035 5 3	2,758 5 10	....	....	....	....	....	....	....	....	....	4,843 11 1
b. Revenue from shared and private forests	....	....	....	....	....	....	786 4 0	....	....	....	....	....	....	786 4 0
V.—Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	....	104 5 1	....	....	....	....	1,661 3 2	2,254 4 0	....	12,374 13 2	....	1,324 1 0	....	17,718 10 5
VI.—Live Stock, Stores, Tools and Plant—														
a. Purchase of cattle	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Feed and keep of cattle	19 14 2	....	....	....	377 0 8	....	....	....	....	....	....	....	....	396 14 10
c. Stores, tools and plant	....	21 11 6	18 12 0	....	2 0 0	15 0 0	26 14 9	2 2 0	....	....	....	3 0 0	....	89 8 3
VII.—Communications and Buildings—														
a. Roads and bridges	....	98 6 0	....	....	....	....	....	211 4 6	....	263 0 8	25 0 0	....	....	597 11 2
b. Buildings	....	148 9 0	774 12 0	36 14 0	54 3 3	705 1 6	....	94 14 0	....	102 4 11	2,704 12 11	633 2 0	....	5,254 9 7
c. Other works	....	....	....	....	....	....	....	7 0 0	....	....	....	....	....	7 0 0
VIII.—Demarcation, Improvement and Extension of Forests—														
a. Demarcation	....	6,375 15 8	2,357 2 5	3,632 4 11	3,010 3 0	2,388 10 3	5,276 15 6	4,148 3 4	2,005 3 7	111 8 6	2,770 6 11	1,549 13 3	141 10 6	33,763 2 7
b. Compensation for land and rights	....	4,766 0 4	42 4 6	....	879 2 8	187 14 9	6,045 0 0	485 5 1	4,010 13 0	....	255 0 0	7,814 11 0	....	24,486 3 4
c. Surveys and working plans	20 8 0	300 0 0	....	....	154 7 2	238 12 11	947 1 6	427 10 7	75 0 0	....	66 5 0	142 9 6	15,734 2 5	18,106 9 1
d. Plantations	2 8 0	1,190 14 9	155 5 0	363 5 3	957 5 7	....	977 3 0	1,659 12 7	1,581 5 8	67 0 9	391 3 5	115 3 0	....	7,461 3 0
e. Protection from fire	....	15 15 0	....	....	4 6 0	2 3 0	6 14 0	....	....	....	396 11 0	44 6 9	....	470 7 9
f. Other works	....	364 3 3	....	....	41 13 6	....	4,359 13 7	568 9 0	193 5 2	58 1 0	1,364 5 0	....	....	6,950 2 6
IX.—Miscellaneous—														
a. Refunds	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Law charges	....	....	....	16 11 9	....	....	....	....	....	3,710 0 0	....	....	....	3,726 11 9
c. Other charges	....	158 3 5	40 2 6	39 14 0	373 11 1	7 12 0	568 14 9	1,003 4 3	18 12 0	157 11 3	144 6 0	17 9 6	....	2,520 4 9
Total, A.—Conservancy and Works	42 14 2	17,016 7 8	9,222 7 3	10,723 4 6	14,175 7 1	4,940 0 10	24,466 9 4	19,826 7 10	7,998 0 8	21,854 8 10	31,454 14 0	31,475 12 9	15,875 12 11	2,09,072 11 10
B.—Establishments.														
I.—Salaries.														
a. Conservators	18,000 0 0	....	....	....	....	....	....	....	....	....	....	....	....	18,000 0 0
b. Superior Officers	28 3 7	8,150 0 0	7,306 7 2	5,829 0 6	10,773 11 6	6,798 6 2	13,717 9 4	10,305 0 0	5,515 15 1	6,600 0 0	10,397 3 11	10,313 5 2	....	95,734 14 5
c. Subordinate Forest and Depôt Establishments	869 0 0	23,441 6 2	22,546 4 3	23,146 1 10	31,527 10 0	12,378 7 5	31,709 14 4	28,059 1 4	12,405 5 1	8,278 1 0	25,827 7 3	27,418 2 11	....	2,46,901 13 7
d. Office Establishments	6,293 14 8	2,054 4 10	2,350 0 3	2,534 2 4	2,506 5 5	1,925 7 3	2,550 9 11	2,559 13 4	1,772 0 0	2,079 10 10	3,123 14 11	2,926 4 11	....	32,676 8 8
e. Deputation and special allowances	56 0 0	....	....	....	....	....	119 0 0	....	143 0 0	....	....	....	....	318 0 0
II.—Travelling Allowances.														
a. Conservators	2,400 0 0	....	....	....	....	....	....	....	....	....	....	....	....	2,400 0 0
b. Superior Officers	19 5 8	1,972 5 3	1,859 2 1	2,602 10 0	2,674 10 8	1,926 14 6	2,850 15 11	2,544 8 0	1,872 5 0	1,898 3 2	3,417 8 5	3,850 15 10	....	27,489 8 6
c. Subordinate Forest and Depôt Establishments	....	1,499 7 10	1,549 14 4	1,290 1 10	1,616 8 0	725 6 6	1,560 13 5	1,795 6 10	869 15 9	959 0 10	1,022 1 4	1,036 0 0	....	13,924 12 8
d. Office Establishments	2,535 7 0	821 2 11	750 2 7	893 8 1	900 3 10	687 11 11	1,104 10 7	899 4 8	664 2 1	715 13 7	1,695 8 0	1,131 9 0	.....	12,199 4 3
III.—Contingencies.														
a. Stationery	25 1 0	377 3 10	348 9 2	525 1 0	495 9 5	212 0 0	472 13 6	555 1 10	213 8 9	145 9 7	365 13 4	408 11 1	....	4,145 2 6
b. Carriage of tents and records	597 2 8	277 1 0	138 3 6	233 13 6	406 1 6	141 4 0	278 8 6	250 8 6	99 3 0	101 11 6	300 4 0	194 0 0	....	3,017 13 8
c. Rents, rates and taxes	480 0 0	240 0 0	245 11 0	260 0 0	107 3 4	....	420 3 0	106 10 8	72 0 0	97 0 0	313 15 9	246 0 0	....	2,588 11 9
d. Pay of police guards	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Official postage	475 8 0	542 15 0	628 5 0	422 9 6	797 15 0	265 6 0	711 14 6	616 11 6	250 6 6	232 0 0	550 13 0	756 13 0	....	6,231 5 0
f. Sundries	167 4 0	1,466 8 3	194 9 5	504 15 8	1,360 6 2	565 15 5	2,164 3 7	1,840 15 4	446 0 9	298 9 8	1,432 6 10	1,851 3 2	....	12,299 2 3
Payments to Officers of other Provinces	845 2 5	....	....	....	....	....	....	....	....	....	....	....	....	845 2 5
Total, B.—Establishments	32,792 1 0	40,842 7 1	37,717 4 9	38,242 0 3	53,172 4 10	25,626 15 2	57,661 4 7	49,533 2 0	24,323 14 0	21,400 12 2	47,347 0 9	50,133 1 1	....	4,78,792 3 8
Grand Total of Expenditure	32,834 15 2	57,858 14 9	46,939 12 0	48,965 4 9	67,347 11 11	30,567 0 0	82,127 13 11	69,359 9 10	32,321 14 8	43,255 5 0	78,801 14 9	81,608 13 10	15,875 12 11	6,87,864 15 6

No. $\frac{F}{12106}$

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Bombay, 10th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Dr. *Account Current for the year 1886-87.* *Cr.*

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	.....	654 4 0	By Refunds and Drawbacks—		
I. Land Revenue—			Refunds Divided Heads	1,566 12 11	
Miscellaneous	.....	5 11 0	Assessed Taxes—Income Tax	28 5 6	1,595 2 5
,, IX. Forests (Revenue as per Annual Summary Form No. 58)	.....	9,13,100 15 6	,, 7. Salt—		
,, VIII. Assessed Taxes—			Preventive Establishment (Imperial)	.....	9,742 9 11
Income Tax...	.....	3,707 13 11	,, 13. Forest (Expenditure as per Annual Summary Form No. 58) ...	.....	6,87,864 15 6
,, XXI. Interests—			,, 19. Law and Justice—		
Interest on arrears of Revenue	.....	135 0 1	Jails—District Jails—		
,, XXIII. Stationery and Printing—			Contingencies	.....	122 8 0
Other Press Receipts—			,, 45. Public Works Charges on account of Road-side trees	... ..	18 4 0
Government Central Press	... ..	19 13 6	Revenue Deposits—		
Revenue Deposits—			Forest Deposits	.....	36,357 5 10
Forest Deposits	.....	45,876 15 5	Advances Repayable—		
,, Advances Repayable—			Forest Advances	4,15,659 6 11	
Forest Advances	4,15,852 12 2		Tentage Advances to Gazetted Officers	200 0 0	
Tentage Advances to Gazetted Officers	260 0 0	4,17,812 12 2	Objection Book Advances	2,633 14 11	4,18,493 5 10
Objection Book Advances	1,700 0 0		Cash Recoveries	.....	700 14 11
,, Cash Recoveries	700 14 11	700 14 11	Cheques and Bills (cancelled cheques)	.....	3,885 7 0
,, Cheques and Bills—			Forest Remittances—		
Departmental Cheques—Forest	.....	6,95,374 2 1	Remittances to Treasuries	9,17,835 0 1	
,, Forest Remittances—			Inter-Divisional Transfers	5,305 8 5	
Remittances to Treasuries	34 11 0		Inter-Departmental Transfers	294 15 2	9,23,435 7 8
Inter-Divisional Transfers	5,779 1 7				
Inter-Departmental Transfers	1,832 9 5	7,646 6 0	Account between Bombay and Military—Bombay—		
,, Suspense Acconnt	.....	3 0 0	IV. Items adjustable by Military—		
,, Account between Bombay and Military—Bombay—			Miscellaneous	.....	1,029 6 2
,, IV. Items adjustable by Military—			Account between Bombay and Public Works Department (Ordinary Branches)—Bombay—		
Miscellaneous	.. ...	0 4 7	IV. Items adjustable by Public Works Department—		
Account between Bombay and Public Works Department (Ordinary)—Bombay—			Inter-Departmental Charges to Public Works Department ...	.....	2,156 4 7
IV. Payments into Treasuries	.....	150 0 0	Account between Bombay and Public Works Department (Railway Branches)—Bombay—		
,, Account between Bombay and Public Works Department—Bombay—			IV- Items adjustable by Public Works Department—		
IV. Inter-Departmental Charges	.....	748 9 5	Inter-Departmental Charges to Public Works Department ...	.....	279 6 6
,, Civil Works in charge of Civil Officers—			Suspense Account	.....	3 0 0
Road-side trees receipts	... ..	43 5 6	Cash Balance ...	.....	295 13 9
Total ...	.....	20,85,980 0 1	Total ...	.....	20,85,980 0 1

No. $\frac{F.}{12100.}$

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
10th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 60.

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1886-87.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
North Thána ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	.....	66,086 3 7	66,086 3 7	66,072 3 7	14 0 0	
	b. Firewood and charcoal	.....	18,070 14 9	18,070 14 9	18,070 14 9	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	1,667 2 11	1,667 2 11	1,667 2 11	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	81,671 1 3	81,671 1 3	81,671 1 3	.....	
	b. Firewood and charcoal	.....	16,796 10 5	16,796 10 5	16,796 10 5	.....	
	c. Bámbus	.....	11,774 10 3	11,774 10 3	11,774 10 3	.....	
	d. Grazing and fodder grass ...	.....	9,978 8 0	9,978 8 0	9,978 8 0	.....	
	e. Other minor produce	.....	3,775 11 7	3,775 11 7	3,775 11 7	.....	
	III.—Confiscated, drift, and waif wood ...	.....	2,207 2 0	2,207 2 0	2,207 2 0	.....	
	Total ...	.....	2,12,028 0 9	2,12,028 0 9	2,12,014 0 9	14 0 0	
South Thána ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	1 0 0	55,582 10 10	55,583 10 10	55,583 10 10	.....	
	b. Firewood and charcoal	.....	9,067 10 6	9,067 10 6	9,067 10 6	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	3,464 9 8	3,464 9 8	3,464 9 8	.....	
	II.—Timber and other produce removed from the forest by consumers and purchasers—						
	a. Timber	66 9 0	14,269 11 9	14,336 4 9	14,269 11 9	66 9 0	
	b. Firewood and charcoal	.....	955 1 2	955 1 2	955 1 2	.....	
	c. Bámbus	.....	5,169 14 8	5,169 14 8	5,169 14 8	.....	

	d. Grazing and fodder grass...	...	.....			2,316	5	8	2,316	5	8	2,316	5	8	.....		
	e. Other minor produce ...	...	.....			4,862	3	3	4,862	3	3	4,862	3	3	.....		
	III.—*Confiscated, drift, and waif wood*	...	.....			1,698	11	0	1,698	11	0	1,698	11	0	.....		
	Total	...	67	9	0	97,386	14	6	97,454	7	6	97,387	14	6	66	9	0
West Khándesh.	*I.*—*Timber and other produce removed from the forests by Government agency*—																
	a. Timber	...	.....			10,717	13	7	10,717	13	7	10,717	13	7	.....		
	b. Firewood and charcoal ...	...	.....			3,622	14	0	3,622	14	0	3,622	14	0	.....		
	c. Bámbus	...	.....			.....			.....			.....			.....		
	d. Sandalwood	...	.....			.....			.....			.....			.....		
	e. Grass and other minor produce	...	.....			.....			.....			.....			.....		
	II.—*Timber and other produce removed from the forests by consumers and purchasers*—																
	a. Timber	...	.....			16,266	7	9	16,266	7	9	16,266	7	9	.....		
	b. Firewood and charcoal ...	...	.....			4,438	7	6	4,438	7	6	4,438	7	6	.....		
	c. Bámbus	...	.....			2,473	7	3	2,473	7	3	2,473	7	3	.....		
	d. Grazing and fodder grass...	...	1,648	11	5	33,356	4	6	35,004	15	11	33,411	0	0	1,593	15	11
	e. Other minor produce ...	...	.....			7,896	9	0	7,896	9	0	7,896	9	0	.....		
	III.—*Confiscated, drift, and waif wood*	...	.....			1,494	3	0	1,494	3	0	1,494	3	0	.....		
	Total	...	1,648	11	5	80,266	2	7	81,914	14	0	80,320	14	1	1,593	15	11
East Khándesh.	*I.*—*Timber and other produce removed from the forests by Government agency*—																
	a. Timber	...	.....			7,855	14	11	7,855	14	11	7,855	14	11	.....		
	b. Firewood and charcoal ...	...	.....			4,497	8	0	4,497	8	0	4,497	8	0	.....		
	c. Bámbus	...	.....			0	1	6	0	1	6	0	1	6	.....		
	d. Sandalwood	...	.....			.....			.....			.....			.....		
	e. Grass and other minor produce	...	.....			.....			.....			.....			.....		
	II.—*Timber and other produce removed from the forests by consumers and purchasers*—																
	a. Timber	...	.....			2,442	4	3	2,442	4	3	2,442	4	3	.....		
	b. Firewood and charcoal ...	...	.....			6,127	5	6	6,127	5	6	6,127	5	6	.....		
	c. Bámbus	...	.....			4,337	10	11	4,337	10	11	4,337	10	11	.....		
	d. Grazing and fodder grass	...	113	10	0	26,937	12	6	*27,051	6	6	26,953	7	6	.....		
	e. Other minor produce ...	...	8	8	0	293	0	6	301	8	6	301	8	6	.....		
	III.—*Confiscated, drift, and waif wood*	...	.....			230	7	6	230	7	6	230	7	6	.....		
	Total	...	122	2	0	52,722	1	7	52,844	3	7	52,746	4	7	.....		

* The sum of Rs. 97-15-0 has been written off.

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Násik ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	12,708 11 0	28,961 11 6	41,670 6 6	36,894 14 5	4,775 8 1	
	b. Firewood and charcoal	74 2 0	2,195 11 3	2,269 13 3	2,212 11 3	57 2 0	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	1,260 11 5	1,260 11 5	1,235 4 10	25 6 7	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	17,145 11 2	17,145 11 2	17,145 11 2	.....	
	b. Firewood and charcoal	.....	1,048 8 2	1,048 8 2	1,048 8 2	.....	
	c. Bámbus	120 1 7	3,955 1 5	4,075 3 0	4,075 3 0	.....	
	d. Grazing and fodder grass	214 1 5	39,908 11 0	40,122 12 5	37,831 5 0	2,291 7 5	
	e. Other minor produce	1 9 0	3,647 3 7	3,648 12 7	3,648 12 7	.....	
	III.—Confiscated, drift, and waif wood ...	10 14 0	302 1 5	312 15 5	309 11 2	3 4 3	
	Total ...	13,129 7 0	98,425 6 11	1,11,554 13 11	1,04,402 1 7	7,152 12 4	
Ahmednagar ..	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	105 9 3	8,306 3 10	8,411 13 1	8,411 13 1	.....	
	b. Firewood and charcoal	24 4 9	1,416 7 9	1,440 12 6	1,440 12 6	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	0 11 0	0 11 0	0 11 0	.....	
	e. Grass and other minor produce ...	.....	3,747 0 6	3,747 0 6	3,747 0 6	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	77 7 10	77 7 10	77 7 10	.....	
	b. Firewood and charcoal	.....	410 2 0	410 2 0	410 2 0	.....	
	c. Bámbus	.....	438 5 0	438 5 0	438 5 0	.....	
	d. Gazing and fodder grass	.....	27,199 12 11	27,199 12 11	27,199 12 11	.....	
	e. Orther minor produce	.....	1,004 1 9	1,004 1 9	1,004 1 9	.....	

	III.—Confiscated, drift and waif wood... ...	.....	350 12 1	350 12 1	350 12 1	.....	
	Total ...	129 14 0	42,951 0 8	43,080 14 8	43,080 14 8	.....	
Poona	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	.....	19,406 7 6	19,406 7 6	19,406 7 6	.....	
	b. Firewood and charcoal	.....	13,229 14 0	13,229 14 0	13,229 14 0	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	3,560 12 3	3,560 12 3	3,560 12 3	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	124 1 6	124 1 6	124 1 6	.....	
	b. Firewood and charcoal	.....	665 11 6	665 11 6	665 11 6	.....	
	c. Bámbus	.....	369 9 0	369 9 0	369 9 0	.....	
	d. Grazing and fodder grass	658 13 9	47,557 7 9	*48,216 5 6	47,707 11 9	.....	
	e. Other minor produce	.....	1,102 4 9	1,102 4 9	1,102 4 9	.....	
	III.—Consfiscated, drift, and waif wood ...	.....	430 11 6	430 11 6	430 11 6	.....	
	Total ...	658 13 9	86,446 15 9	87,105 13 6	86,597 3 9	.....	
Sátára	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	21 4 0	12,639 1 5	12,660 5 5	12,660 5 5	.....	
	b. Firewood and charcoal	.....	3,345 8 6	3,345 8 6	3,345 8 6	.....	
	c. Bámbus	.....	292 3 6	292 3 6	292 3 6	.....	
	d. Sandalwood	.....	3 9 6	3 9 6	3 9 6	.....	
	e. Grass and other minor produce ...	.....	10,309 4 2	10,309 4 2	10,309 4 2	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	891 12 7	891 12 7	891 12 7	.....	
	b. Firewood and charcoal...	.....	205 13 3	205 13 3	205 13 3	.....	
	c. Bámbus	.....	298 11 3	298 11 3	298 11 3	.....	
	d. Grazing and fodder grass	†40 0 0	37,156 8 0	37,196 8 0	37,156 8 0	.....	
	e. Other minor produce	.....	2,811 7 6	2,811 7 6	2,811 7 6	.....	
	III.—Confiscated, drift, and waif wood ...	.....	88 6 11	88 6 11	88 6 11	.....	
	Total ...	61 4 0	68,042 6 7	68,103 10 7	68,063 10 7	.....	

* The sum of Rs. 508-9-9 has been written off.

† Out of Rs. 40 the sum of Rs. 21-14-0 has been written off, and Rs. 18-2-0 have been transferred to the Revenue Department.

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sholápur ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	.....	160 14 0	160 14 0	160 14 0	.....	
	b. Firewood and charcoal	.....	748 2 6	748 2 6	733 2 6	15 0 0	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	17 6 3	17 6 3	17 6 3	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	.....	34 15 3	34 15 3	34 15 3	.....	
	b. Firewood and charcoal	.....	197 5 9	197 5 9	197 5 9	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Grazing and fodder grass... ...	135 6 0	5,653 4 9	*5,788 10 9	5,732 2 9	.....	* The sum of Rs. 56-8-0 has been written off.
	e. Other minor produce	4 0 0	34 6 0	38 6 0	34 6 0	4 0 0	
	III.—Confiscated, drift, and waif wood ...	.....	7 12 9	7 12 9	7 12 9	.....	
	Total ...	139 6 0	6,854 3 3	6,993 9 3	6,918 1 3	19 0 0	
Surat ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	.....	8,948 0 7	8,948 0 7	8,820 0 7	128 0 0	
	b. Firewood and charcoal	.....	6,414 15 0	6,414 15 0	6,414 15 0	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	.....	.....	.....	.....	
	II.—Timber and other produce removed from the forests by consumers and purchasers—						
	a. Timber	17,193 12 0	15,382 1 3	32,575 13 3	29,701 5 4	2,874 7 11	
	b. Firewood and charcoal	.....	1,724 13 9	1,724 13 9	1,724 13 9	.....	
	c. Bámbus	.....	17,403 13 5	17,403 13 5	17,403 13 5	.....	
	d. Grazing and fodder grass... ...	.....	1,274 15 0	1,274 15 0	1,274 15 0	.....	
	e. Other minor produce	225 0 0	1,606 5 1	1,831 5 1	1,831 5 1	.....	
	III.—Confiscated, drift, and waif wood ...	1,004 6 5	425 4 0	1,429 10 5	819 13 2	609 13 3	
	Total ...	18,423 2 5	53,180 4 1	71,603 6 6	67,991 1 4	3,612 5 2	

Panch Mahals ...	*I.—Timber and other produce removed from the forests by Government agency—*																	
	a. Timber	.....			9,324	5	11	9,324	5	11	9,324	5	11	.....				
	b. Firewood and charcoal	.....			2,783	4	0	2,783	4	0	2,783	4	0	.....				
	c. Bámbus	.....			1,054	3	0	1,054	3	0	1,054	3	0	.....				
	d. Sandalwood	.....			.....			.....			.....			.....				
	e. Grass and other minor produce ...	.....			.....			.....			.....			.....				
	II.—Timber and other produce removed from the forests by consumers and purchasers—																	
	a. Timber	4,135	0	0	20,065	0	8	24,200	0	8	23,992	6	8	207	10	0		
	b. Firewood and charcoal	.....			792	5	0	792	5	0	792	5	0	.....				
	c. Bámbus	.....			422	2	6	422	2	6	422	2	6	.....				
	d. Grazing and fodder grass... ...	.....			7,564	1	0	7,564	1	0	7,564	1	0	.....				
	e. Other minor produce	66	15	0	2,573	12	9	2,640	11	9	2,619	14	3	20	13	6		
	III.—Confiscated, drift and waif wood ...	.....			45	0	10	45	0	10	45	0	10	.....				
	Total ...	4,201	15	0	44,624	3	8	48,826	2	8	48,597	11	2	228	7	6		
Total Northern Circle.	*I.—Timber and other produce removed from the forests by Government agency—*																	
	a. Timber	12,836	8	3	2,27,989	7	8	2,40,825	15	11	2,35,908	7	10	4,917	8	1		
	b. Firewood and charcoal	98	6	9	65,392	14	3	65,491	5	0	65,419	3	0	72	2	0		
	c. Bámbus	.....			1,346	8	0	1,346	8	0	1,346	8	0	.....				
	d. Sandalwood	.....			4	4	6	4	4	6	4	4	6	.....				
	e. Grass and other minor produce ...	.....			24,026	15	2	24,026	15	2	24,001	8	7	25	6	7		
	II.—Timber and other produce removed from the forests by consumers and purchasers—																	
	a. Timber	21,395	5	0	1,68,370	11	3	1,89,766	0	3	1,86,617	5	4	3,148	10	11		
	b. Firewood and charcoal	.....			33,362	4	0	33,362	4	0	33,362	4	0	.....				
	c. Bámbus	120	1	7	46,643	5	8	46,763	7	3	46,763	7	3	.....				
	d. Grazing and fodder grass... ...	2,810	10	7	2,38,903	11	1	*2,41,714	5	8	2,37,125	13	7	3,885	7	4		
	e. Other minor produce	306	0	0	29,607	1	9	29,913	1	9	29,888	4	3	24	13	6		
	III.—Confiscated, drift and waif wood ...	1,015	4	5	7,280	9	0	8,295	13	5	7,682	11	11	613	1	6		
	Grand Total ...	38,582	4	7	8,42,927	12	4	8,81,510	0	11	8,68,119	14	3	12,687	1	11		

*The sum of Rs. 703-0-9 h been written off.

Poona, 25th October 1887.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

B 691—21 N C

FORM No. 61.

Forest Department, Bombay, Northern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1886-87.

Divisions.	Department Debtor.			Department Creditor.			Balance due		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Panch Mahals...	...	1 8 0	1 8 0	1 8 0	.....	1 8 0	.....	...	
Násik	...	60 0 0	60 0 0	.....	60 0 0	60 0 0	.....	...	
North Thána	...	559 13 6	559 13 6	.....	559 13 6	559 13 6	.....	...	
Total Contractors ...	...	621 5 6	621 5 6	1 8 0	619 13 6	621 5 6	.....	...	
Disbursers.									
Ahmednagar	...	42,195 1 4	42,195 1 4	.....	42,195 1 4	42,195 1 4	.....	...	
Khándesh, East	...	31,534 13 2	31,534 13 2	873 2 7	30,821 2 1	31,694 4 8	159 7 6	...	
Khándesh, West	...	30,146 10 1	30,146 10 1	389 10 7	30,061 3 11	30,450 14 6	304 4 5	...	
Násik	...	45,446 15 9	45,446 15 9	110 8 0	45,342 10 1	45,453 2 1	6 2 4	...	
Panch Mahals...	...	17,775 1 11	17,775 1 11	.....	17,775 1 11	17,775 1 11	.....	...	
Poona	...	50,625 5 0	50,625 5 0	.....	50,625 5 0	50,625 5 0	.....	...	
Sátára	...	45,886 9 2	45,886 9 2	97 10 1	46,159 13 1	46,257 7 2	370 14 0	...	
Sholápur	...	15,528 8 7	15,528 8 7	118 11 10	15,744 0 11	15,862 12 9	334 4 2	...	
Surat	...	21,351 0 7	21,351 0 7	15 11 6	21,335 5 1	21,351 0 7	.....	...	
Thána, North	...	56,248 8 10	56,248 8 10	65 1 3	56,540 15 11	56,606 1 2	357 8 4	...	
Thána, South	....	57,281 3 6	57,281 3 6	43 13 11	57,227 5 4	57,271 3 3	.....	10 0 3	
Working Plans	...	1,211 8 9	1,211 8 9	.....	1,211 8 9	1,211 8 9	.....	...	
Total Disbursers ...	...	4,15,231 6 8	4,15,231 6 8	1,714 5 9	4,15,039 9 5	4,16,753 15 2	1,532 8 9	10 0 3	
Grand Total ..	...	4,15,852 12 2	4,15,852 12 2	1,715 13 9	4,15,659 6 11	4,17,375 4 8	1,532 8 9	10 0 3	

No. $\frac{F}{12101}$ of 1887-88.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
10th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 62.

Forest Department, Bombay, Northern Circle.

Financial Results of the year 1886-87.

Division.	Timber and other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection, and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
North Thána ...	86,108	18,661	1,33,080	4,712	55,429	2,19,188	78,802	
South Thána ...	69,815	18,484	34,026	1,348	61,777	1,03,841	81,609	
West Khándesh ...	10,718	2,767	80,185	45,765	433	90,903	48,965	
East Khándesh ...	12,353	3,574	49,536	2,261	41,105	61,889	46,940	
Násik	40,434	7,688	66,153	711	58,949	1,06,587	67,348	
Ahmednagar ...	13,602	2,812	30,515	3,991	51,056	44,117	57,859	
Poona	36,197	5,956	53,731	814	75,358	89,928	82,128	
Sátára	26,611	8,683	42,490	23,568	37,108	69,101	69,359	
Sholápur	915	2,116	6,478	6,746	23,460	7,393	32,322	
Surat	15,235	10,111	54,469	20,769	12,375	69,704	43,255	
Panch Maháls ...	13,162	726	37,263	1,401	28,440	50,425	30,567	
Working Plans ...	...	...	...	...	15,876	...	15,876	
Direction... ...	...	...	25	...	32,835	25	32,835	
Total ...	3,25,150	81,578	5,87,951	1,12,086	4,94,201	9,13,101	6,87,865	

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

Poona, 25th October 1887.

No. 3813 OF 1887.

REVENUE DEPARTMENT.

Camp Ahmedabad, 13th December 1887.

Forwarded to Government.

2. Considerable progress has been made in the acquisition of lands to complete the demarcation schemes. But of the area so acquired only a very insignificant portion appears to belong to this division. This matter should be pressed on with in Thána.

3. I entirely agree with the Conservator that the crests of the Ghâts are not sufficiently protected. Above Lonávli (to the north) the tops of the hills are becoming quite bare, and this is also the case in some of the Bhor State villages to the *south*. Money could hardly be spent more profitably or judiciously than in acquiring land and rights in such positions.

4. I do not myself think that the topographical maps of Thána will repay their enormous cost. They are of course exceedingly useful in all initial proceedings towards settlement; but when boundaries have once been fixed, there will be much less use for these expensive maps.

5. I entirely concur in Mr. Shuttleworth's argument in favour of adopting small areas or compartments upon which to commence systematic "working," and I think that the "rough and ready" system proposed is more likely to be workable *at first* than the more elaborate one first contemplated. If very large compartments were adopted, much inconvenience and hardship to the people would be the result.

6. There is improvement this year in the statistics of forest crime. The figures in paragraph 70 show that more care and discretion were used in bringing such offences before the Courts.

7. The treatment of simple offences under Section 43 of the Land Revenue Code is becoming more successful, as I anticipated. In the 154 cases referred to, the value of the timber was less than rupee one per case, and this method of dealing with such petty matters is clearly better than criminal prosecution.

8. There has been conspicuous moderation in impounding cattle.

9. I have already expressed my opinion very strongly that without an alteration in the Forest Act regarding *passes*, there will never be efficient protection in Thána.

10. There has been a very notable improvement in *fire conservancy*, though the name is hardly a suitable one, considering that few active measures are taken in this direction, and that expenditure is nominal. I have always held that a good deal depends upon the temper of the people. I should have been glad to see so conspicuous an improvement signalized by a notable increase in the rewards given to the villagers. I do not, however, quite trust the correctness of the figures.

11. The grazing question is under the separate consideration of Government.

12. With regard to the complaint about thorns, I can only observe that the demand will *increase* as wild animals increase in the reserves. The Conservator's remarks are somewhat overdrawn, but there is some reason in them. There are thorns and thorns. The removal of those most valued (the "bor" or "wait a bit") should be freely allowed, and in some places bámbu trimmings might be utilised. But if Revenue Officers find the privilege *abused*, it should be stopped at once.

13. I will ask the Collector of Thána to report on the working of the present system of retail sales for the Bassein sugar-boilers.

14. The income of the Department has somewhat fallen off, but this is sufficiently explained by the lower prices obtainable. There has been a notable decrease of ill-feeling against the Department in Thána, and on this and the general results of the year I congratulate the Conservator.

15. I would ask that, if it is necessary to print "rules" in *extenso*, they should be embodied in an appendix. They are wearisome, and somewhat unprofitable reading in the body of a report.

G. F. SHEPPARD,
Commissioner, N. D.

No. $\frac{R}{109}$ OF 1888.

FROM

ARTHUR CRAWFORD, ESQUIRE, C. S., C. M. G.,
COMMISSIONER, C. D.;

TO

THE CHIEF SECRETARY TO GOVERNMENT,
REVENUE DEPARTMENT,
Bombay.

Poona, 10th January 1888.

SIR,

I have the honour to submit the accompanying Administration Report of the Conservator of Forests, N. C., for the year 1886-87, received on the 12th December 1887.

2. *Paragraphs 1 to 11.*—The increase in the forest area during the past year was 281 square miles and 576 acres. The revenue has, however, declined from Rs. 10,37,296 in 1885-86 to Rs. 9,13,100 during the year under report. A large number of cases under the Forest Act were compounded, and this, I hope, is evidence that the officers of the Department have acted on the principle of moderation in the exercise of their functions.

3. *Pragraphs 12 to 69.*—At the close of the year the forest demarcation remained to be completed in 19 tálukás of the Central Division. The proposals regarding 9 tálukás have lately been formally sanctioned by Government, and it is hoped during the current season all will be disposed of. The work of erecting forest boundaries is being pushed on with vigour. When this is completed, encroachments on forest areas ought to cease. The settlement of claims to forest areas, however, seems to be behindhand, and both for the protection of forests and the public at large it is very necessary that this work should be undertaken and completed as early as possible. The code of rules regarding the privileges in the North and South Tápti tálukás were sanctioned finally by Government during the year under report.

4. *Paragraphs 70 to 88.*—Though a large number of forest offences were compounded, nevertheless the cases brought before Criminal Courts show an increase of 64 over last year, the highest figures being 150 in Ahmednagar and 146 in Násik. In Poona, during 1885-86, 230 cases were tried, but the number fell to 99 during the year under report. The Conservator's remarks on the working of Section 67 of the Forest Act appear to me to be sensible. Mr. Wroughton, the Divisional Forest Officer, Poona, says that the compounding of forest offences is a great temptation to dishonesty by subordinates. This may be so, but the remedy is obvious, *viz.*, that superior officers should scrutinize as many such cases as possible.

5. *Paragraphs 89 to 136.*—The revenue from grass and grazing is, on paper, increasing enormously: in the year 1878-79 the income from this source was Rs. 42,629, and in the year under report the revenue rose to Rs. 2,37,126! This

simply means that a large sum has been abstracted from Land Revenue and credited to Forest. I see no reason to believe that increase is due to departmental causes. The greatest increase is in the Násik and Ahmednagar Collectorates. Mr. Shuttleworth seems to consider the supply of thorns to private persons for fencing cultivated areas a difficulty in the way of forest conservancy. The final orders of Government on the subject are contained in the Government Resolution* noted in the margin, and the instructions when carefully carried out need cause no danger to forests. The departmental cutting of teak and other forest was everywhere a complete success. This system is also beneficial, inasmuch as it conciliates people resident near forest reserves.

* No. 6493, dated 27th September 1887, R. D.

6. *Paragraphs 137 to 140.*—Free grants of timber amounted during the year to Rs. 4,244, or about Rs. 300 over last year. Mr. Shuttleworth adds to this the estimated value of other concessions allowed to the people, but I think that free grazing and other concessions are not directly connected with the forest conservancy. Many of the concessions are recognitions of old rights and privileges enjoyed by the people long before the Forest Department was created.

7. *Paragraphs 141 to 150.*—The Conservator of Forests accounts for the decrease of revenue by a small demand for timber in the Thána District and the Dángs and the Mándvi forests combined, with a sudden and unaccountable fall in the prices of myrabolans. The expenditure shows an increase of Rs. 19,191!

8. The Conservator seems to have moved actively throughout his charge. Mr. Shuttleworth's remarks in paragraph 157 regarding the reduction of the bulk of the Divisional Forest Officer's establishment when on tour is worthy of consideration. The suggestion, if carried out, will simplify work and considerably reduce expenditure on the touring of Divisional Forest Officers.

I have the honour to be,
Sir,
Your most obedient Servant,
ARTHUR CRAWFORD,
Commissioner, C. D.

Statement showing the information with regard to the Areas in the Northern Circle declared, under the provisions of Section 34, either Reserved or Protected Forests, but in which the rights have not been finally settled for the year 1886-87, as required by paragraph 2 of Government Resolution No. 8738 dated 24th December 1887.

Class of Forests.	At the commencement of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Areas settled during the year under		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Remarks.
		Chapter II of the Act.	Chapter IV of the Act.				
	Square Miles.	Square Miles.	Square Miles.	Square Miles.	Square Miles.	Square Miles.	
North Thána.							
Reserved Forests	201	.....	.....	.....	.....	201	The settlement work accomplished during the year is *not* exhibited by these figures, but only the progress made in the settlement of the Forest lands which were gazetted under Section 34 of the Forest Act in March 1879.
Protected Forests	292	.....	.....	.....	1	291	
South Thána.							
Reserved Forests	99	.....	.....	.....	.....	99	
Protected Forests	329	.....	.....	.....	.....	329	
Poona.							
Reserved Forests	329	68	.....	3	.....	258	
Protected Forests	.....	.....	.....	.....	.....	.....	
Surat.							
Reserved Forests	955	.....	.....	.....	.....	955	
Protected Forests	.....	.....	.....	.....	.....	.....	
Panch Mahals.							
Reserved Forests	183	.....	.....	5	.....	178	
Protected Forests	.....	.....	.....	.....	.....	.....	
Ahmednagar.							
Reserved Forests	1	.....	.....	.....	.....	1	
Protected Forests	.....	.....	.....	.....	.....	.....	
Total ...	2,389	68	.....	8	1	2,316	

Poona, 1st March 1888.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

SOUTHERN CIRCLE.

No. 3135 OF 1887-88.

FROM

J. L. L. MACGREGOR, ESQUIRE,
CONSERVATOR OF FORESTS, SOUTHERN CIRCLE;

To

THE SECRETARY TO GOVERNMENT,
REVENUE DEPARTMENT,
Bombay.

Conservator's Office, S.C.,
Belgaum, 18th October 1887.

SIR,

I have the honour to submit herewith the Forest Administration Report of the Southern Circle for 1886-87, together with its subsidiary statements, as per list appended.

I have the honour to be,
Sir,
Your most obedient Servant,
J. L. L. MACGREGOR,
Conservator of Forests, S.C.

Through the Commissioner, S. D.

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SOUTHERN CIRCLE.

1886-87.

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FOREST ADMINISTRATION REPORT

OF THE

SOUTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1886-87.

INTRODUCTION.

In point of revenue the year 1886-87 may be regarded as a favourable one. The receipts have considerably exceeded those of all past years, excepting 1885-86, whose income was higher owing to the large number of sleepers supplied to the Southern Marátha Railway Company. The demand for wood has increased, and it may be expected to further increase with the opening of the Western Deccan line of the Southern Marátha Railway, when there will be direct railway communication with Poona.

2. The increase in the sale of fuel supplied to the railway, now amounting to 2,000 tons a month, with every chance of its increasing to 3,000 during the present year, and the opening of the railway through the forests of Southern Belgaum, which will considerably increase the demand for forest produce, are the most noteworthy events of the past year.

3. The survey of the forests of the Khánápur Táluka was continued mainly under Messrs. Longe and Pollen, and all the forests of Belgaum, of which it is necessary to have accurate maps, have now been surveyed. This will set the survey-party free to commence work on the heavy timber-forests of Haliyál in Kánara, which are a continuation of the forests of Southern Khánápur.

CHAPTER I.

AREA AND RESERVES.

4. The area under forest conservancy on the 1st April 1886, and gazetted under the Forest Act of 1878, was 5,230 square miles 481 acres, consisting of 1,816 square miles 169 acres of Reserved, and 3,414 square miles 312 acres of Protected, Forest.

5. The additions and disforestments made during the year 1886-87 are as follows :—

	Reserved Forests.		Protected Forests.	
	Square Miles.	Acres.	Square Miles.	Acres.
Added...	6	$104\frac{1}{40}$	4	$492\frac{21}{40}$
Excluded	...	$\frac{3}{4}$	6	$624\frac{21}{40}$

leaving on the 31st March, 1887, 5,234 square miles and $452\frac{11}{40}$ acres, made up of :—

	Square Miles.	Acres.
Reserved Forests	...1,822	$272\frac{11}{40}$
Protected Forests	...3,412	180
Total	...5,234	$452\frac{11}{40}$

6. The following shows the details for the Collectorates of the Circle :—

Name of Collectorate.	Area on 1st April 1886.				Added during the year.				Excluded or transferred to other Heads.				Area on the 31st March 1887.				Total Forest Area.	
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Area.	
	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
Kánara	683	446	2,864	631	..	..	..	..	..	..	..	..	683	446	2,864	631	3,548	437
Belgaum	492	82	197	207	..	..	..	$16\frac{9}{40}$	..	..	..	..	492	82	197	$223\frac{9}{40}$	689	$305\frac{9}{40}$
Dhárwár	171	425	260	261	..	..	..	..	..	..	..	..	171	425	260	261	432	46
Kolába	293	368	91	129	6	$104\frac{1}{40}$	4	$476\frac{13}{40}$	..	$\frac{3}{4}$	6	$624\frac{31}{40}$	299	$471\frac{11}{40}$	88	$620\frac{33}{40}$	388	$452\frac{3}{40}$
Bijápur	155	115	..	364	..	..	..	..	..	..	..	..	155	115	..	364	155	479
Ratnágiri	20	13	..	..	..	..	..	..	..	..	..	..	20	13	..	..	20	13
Total ..	1,816	169	3,414	312	6	$104\frac{1}{40}$	4	$492\frac{13}{40}$	..	$\frac{3}{4}$	6	$624\frac{31}{40}$	1,822	$272\frac{13}{40}$	3,412	180	5,234	$452\frac{1}{40}$

KÁNARA.

7. Schedules of lands, comprising 20 villages of the Honávar Sub-division and 43 villages of Sirsi, aggregating 17,850 and 42,409 acres, respectively, were published under Section 4 of the Forest Act. In the Ankolá Sub-division 2 acres and 6 gunthás were also notified under Section 4 of the Act.

8. These areas are now being settled by Mr. Wingate, who has demarcated the Reserved and Protected Forests in the Mundgod Sub-division by means of cleared lines and boards, the line dividing the Protected and Reserved Forests being upwards of 72 miles long. Demarcation lines, aggregating 7 miles and a half, were also cut in three adjoining forests of the Sirsi Sub-division settled in 1880-81.

BELGAUM.

9. Mr. Woodward submitted a report on the settlement of 22 villages in the Khánápur Sub-division, but Government directed that a scheme for the whole forest area of the Sub-division should be submitted, and his proposals were not sanctioned.

10. The addition of 16 acres shown under Protected Forests in the above statement is due to certain corrections made in the original notification of the Parasgad forests. In the Belgaum Sub-division 33 acres and 9 gunthás were also notified under Section 4 of the Forest Act.

KOLÁBA.

11. The work of settlement and demarcation has been vigorously prosecuted during the year. Government-orders were passed on the settlement and demarcation of the Mahád and Mángaon sub-divisions, and the lands in Uran were finally notified. The results of these operations are as follows :—

(1) In the Mahád Sub-division $29,994\frac{17}{20}$ acres (*i. e.* 25,330 acres Reserved and $4,664\frac{17}{20}$ acres Protected Forest) were taken up.

(2) In the Mángaon Sub-division $29,580\frac{23}{40}$ acres, made up of $18,190\frac{31}{40}$ acres of Reserved and $11,389\frac{4}{5}$ of Protected Forest, were finally notified.

(3) In the Urán Mahál, $586\frac{1}{4}$ acres were reserved.

12. Mr. Sinclair also completed the settlement-operations in Pen and Nágothna, and got well forward in Roha.

13. The following is the other work done during the year :—

Allotment of dháli-lands in 22 villages of the Mángáon Sub-division.
Allotment of dháli-lands in 22 villages of the Pen Sub-division and in one of Mahád.

14. Forest registers of 81 villages of Mahád, 124 of Mángaon, 46 of Pen, 44 of Nágothna, and 118 of Roha were prepared.

15. The following boundary-marks were erected or renewed :—

2,975 new forest cairns.
915 old forest cairns renewed.
401 do. do. do. repaired.
535 dháli-cairns.
81 ordinary stones.

16. In the Panvel, Mángaon, Mahád, and Pén sub-divisions, 30 gunthás of Reserved, and 4,464$\frac{21}{40}$ acres of Protected Forests were disforested.

BIJÁPUR.

17. The settlement of the forests of Bádámi, Hungund, and Bágalkot sub-divisions was revised by Mr. Tucker, but no Government orders were passed on his reports.

18. In the Bádámi Sub-division, 881 acres and 12 gunthás were notified under Section 4 of the Forest Act.

RATNÁGIRI.

19. Mr. Logan undertook the settlement in the sub-divisions of Chiplún, Khed, Sangameshvar, and Rájápur, and submitted reports, which are now pending the decision of Government.

20. During the year, 13,984 acres and 7 gunthás in the Devgad and Sangameshvar sub-divisions were notified under Section 4 of the Forest Act.

21. The expenditure incurred in connection with the demarcation and settlement of forest during the year amounted to Rs. 54,255-10-9, as follows :—

(1) Salaries and allowances of Forest-Settlement-Officers, not charged against the Forest Department ...	...Rs.	38,026	7	9
(2) Salaries and allowances of the establishments employed under the Forest-Settlement-Officers and contingent expenditure incurred	...Rs.	14,872	5	8
(3) Boundary-marks, &c.	... „	1,326	13	4
	Total Rs.	54,225	10	9

CHAPTER II.

SURVEYS AND ORGANIZATION.

1.—SURVEYS.

22. The survey of the forests of Southern Khánápur was continued, under Messrs. Longe and Pollen, on the 8-inch scale.

23. It was commenced in 1885. During 1885-86 very little progress was made, but during the past year better results were obtained. The accompanying map shows the forest areas surveyed each year. For 1885-86 the area amounts to 11 square miles, and for 1886-87 to 154. The expense for 1886-87 was approximately Rs. 18,528, which amounts to a cost of Rs. 113 per square mile. The frequent changing of officers in charge of the survey may have retarded work (there were six changes during two years); but, considering that scarcely any topographical details are asked for, the result is disappointing, and I think that a departmental survey, or one by the Survey Branch of the Forest Department under the Government of India, would be less expensive and more expeditious. In any case, it appears to me expedient to place the forest survey party under the Conservator of Forests. A good deal of extra forest land has, I believe, been taken up by the forest party, whose expenses are charged to the Department. If that be the case, the above estimate of the cost of the forest survey is of course higher than it should be.

2.—WORKING PLANS.

24. No plans based on sustained yield could be made, owing partly to the want of good maps of the Khánápur-forests and partly to the weakness of the organization-staff, which consists of only one gazetted officer and a clerk. I hope to obtain sanction for the employment of another Assistant-Conservator with suitable establishment during the approaching season; both could be made available without causing additional expense.

25. During 1886-87, Mr. Andrewes, the officer specially employed for organization, investigated the yield and increment of the forests in the Khánápur Táluka of Belgaum, with a view to ascertaining the sustained yield of the forests adjacent to the railway; and a plan for working those which supply fuel to the railway will, it is hoped, be completed during the current year.

26. The survey of all important areas in Khánápur was completed last year, and the forests next to be taken in hand are the valuable timber-forests of Haliyál in Kánara.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—BREACHES OF THE LAW.

27. The magisterial cases during the year were as follows:—

Collectorates.	1885-86.			1886-87.			Percentage of Failure.	
	Cases in which conviction was obtained.	Cases in which conviction failed.	Total Number of Cases.	Cases in which conviction was obtained.	Cases in which conviction failed.	Total Number of Cases.	1885-86.	1886-87.
Kánara	7	4	11	12	5	17	36	29
Belgaum	1	2	3	8	4	12	66	33
Dhárwár	6	3	9	5	6	11	33	54
Kolába	26	18	44	61	17	78	40	21
Bijápur	29	5	34	10	3	13	14	23
Ratnágiri	16	4	20	19	2	21	20	9
Total ...	85	36	121	115	37	152	29	24

28. The total number of cases in 1886-87 was 152, against 121 in the previous year—an increase of 31. The percentage of failures was 29 and 24 respectively.

29. The increase in the number of prosecutions occurs chiefly in the Kolába-Division, where there were 78 in 1886-87 and 44 in the previous year. The increase is owing to prosecutions for illicit cultivation on dháli-lands. The percentage of failures was 21 in 1886-87 and 40 in 1885-86.

30. The cases in Belgaum also show an increase of 9. There, a kulkarni of Parasgad was convicted of levying grazing-fees without entering them in the accounts, and was punished with one and a half year's imprisonment.

31. The following statement gives the cases compounded by forest officers: —

Collectorates.	1885-86.			1886-87.		
	Number of Cases commuted.	Amount of Fines recovered.		Number of Cases commuted.	Amount of Fines recovered.	
		Rs.	a. p.		Rs.	a. p.
Kánara	44	74	10 8	46	344	9 4
Belgaum	20	60	7 0	35	199	12 6
Dhárwár	18	23	0 7	47	126	3 1
Bijápur	121	246	10 1	138	303	0 0
Kolába	180	1,051	10 1	130	1,299	4 1
Ratnágiri	55	44	12 5	42	63	8 9
Total ...	438	1,501	2 10	438	2,336	5 9

32. A statement showing the number of cases compromised under the Forest Act, as well as taken into Court, is given below, as directed in Government Resolution No. 3527 of the 2nd May 1884: —

Districts.	Taken into Court.		Compromised under Section 67.		Total Number of Cases.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Kánara	11	17	44	46	55	63
Belgaum	3	12	20	35	23	47
Dhárwár	9	11	18	47	27	58
Kolába	44	78	180	130	224	208
Bijápur	34	13	121	138	155	151
Ratnágiri	20	21	55	42	75	63
Total ...	121	152	438	438	559	590

2.—FIRES.

33. The prevalence of forest-fires this year was much the same as usual. The following table shows the areas *which appear from the reports* to have been burnt, and the percentage of protection afforded:—

Collectorates.	Forest Area.		Protected.		Burnt.		Percentage of Protection.
	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	
Kánara	3,548	437	2,870	367	678	70	81
Belgaum	689	305	650	535	38	410	94
Dhárwár	432	46	264	202	167	484	66
Kolába	388	452	385	293	3	159	99
Bijápur	155	479	150	461	5	18	98
Ratnágiri	20	13	9	43	...	99	46
Total ...	5,234	452	4,330	624	892	600	83·03

34. In Kánara, where the forests are continuous and unbroken by rides, it is extremely difficult to keep out fires, or to detect incendiaries. In the Northern half of that district the clearing of lines will be commenced in November; and it is hoped that, with their assistance, special areas may, in a year or two, be continuously protected from fire. At present, fires do incalculable mischief by almost putting a complete stop to the natural reproduction by seed of superior species, besides burning and injuring timber, both standing and felled.

3.—NATURAL REGENERATION.

35. For the above reason natural regeneration by seed is very bad, but coppice shoots are generally able to survive the fires.

4.—ARTIFICIAL REGENERATION.

Ka'nara.

36. Nothing was done in the way of planting in regular plantations of the Northern Division of Kánara. Out of the 14,000 casuarina seedlings raised in the previous year for planting on the coast of Kárwár, 12,000 are in a healthy condition, but 2,000 were destroyed by insects. In the Kásarkôd casuarina plantation of the Southern Division of Kánara 2,485 seedlings were planted out from nurseries. Of these 2,210 were killed by insects, besides 1,914 of those put out in the previous year. A nursery of 82,817 seedlings was prepared for transplanting during 1887-88.

37. The experiment in connection with the combining of kumri and the planting of useful plants was not successful.

38. In the Yellápur Sub-division of the Central Division of Kánara out of the 123 acres allotted for kumri cultivation 25 acres and 36 gunthás were planted with 9,000 divi-divi and 60 hirda plants. Of these only 43 divi-divi and 3 hirda plants are reported to have survived. In the Northern Division of Kánara no fresh planting was done, but of the 10,204 divi-divi and 56,149 hirda seedlings reported to be alive at the end of the previous year, 7,293 of the former and 271 of the latter have died.

Belgaum.

39. No fresh planting was done here. It is reported that the plants on the kumri lands are disappearing.

Dha'rwa'r.

40. Of the 2,000 divi-divi and 140 Manilla tamarind, which germinated at the Dévikok plantation, 1,000 of the former and 60 of the latter were planted out.

Bija'pur.

41. A new plantation of bábúl was made at Jaknúr on the Malaprabha. About 9 acres were ploughed up, and seeds sown broadcast. At the close of the year, seedlings of an average height of one foot covered the area. At Mamdápur about 20 acres were treated in the same manner, but the result was not satisfactory.

42. In the Anantápur plantation 4,340 nim, 100 bámbus, 30 sandal, 4 jámbul, and 30 mashwál seedlings were put out from nurseries, and a nursery of 5,000 nim and 162 mashwál seedlings was formed. In the Mamdápur plantation 2,000 bámbus, 2,000 nim, 100 sandal, and 100 sirsál seedlings were planted, and a nursery of various kinds of seedlings was made.

Kola'ba.

43. No planting was done on an extensive scale. Some casuarina seedlings were put out at the Sattad-Nágáon plantation, and these have done fairly well. A nursery of 2,879 seedlings was also formed.

Ratna'giri.

44. In the forest-reserves of Dápoli and Málvan 3,637 casuarina and 100 teak-plants were planted out from nurseries, and a nursery of 20,507 casuarina and other kinds of seedling was prepared. About 10½ khandis of seed were sown broad-cast in the several sub-divisions.

5.—EXPERIMENTS WITH EXOTIC TREES.

45. In the Yellápur Sub-division an experiment with mahogany-seeds was tried, but failed. The failure must have been owing to the badness of the seed, as trees from previous experiments are now to be seen from 6 to 9 feet high.

46. The Pithecolobium Saman trees, planted some years ago, are thriving well almost everywhere. They seeded in Yellápur for the first time; the pods were collected and given to cattle, which readily ate them. It is reported that if the pods were produced in sufficient quantity, they would form a valuable substitute for gram for cattle.

47. Experiments were made with divi-divi at the Mamdápur and Anantápur plantations of the Bijápur Division. The plants surviving number only 1,800, a great number having been killed by insects.

6.—THINNINGS.

48. Thinnings were made in the Kárwár casuarina-plantation. 7,884 trees were selected and cut, and fetched Rs. 1,881-10-7.

49. In the Singatgéri plantation in Kánara, a thinning was made, and the 854 trees that were removed realized Rs. 328.

7.—COMMUNICATIONS AND BUILDINGS.

50. A sum of Rs. 6,552-6-2 was expended under this head.

(*a*) Roads and Bridges.

Rs. 1,394-8-0.

51. In the three divisions of Kánara the following forest-roads were put into repair through the agency of the Revenue-Department:—

(1) Road between Bhágwati and Potōli.

(2) Road between Hittalkárgade and Mágôd.

(3) Road between Kátur and Umachigi.

52. In the Yellápur Sub-division the road from Udamaki to the Saw-Mills was repaired by the Forest Department, as well as the *band*-road in the Dápoli Sub-division of Ratnágiri.

53. The construction of a road between Hemádge and Londe—10 miles long—in the Belgaum Division was commenced by the Forest Department. This will afford a line for the transport of forest-produce to the railway.

(*b*) Buildings

and

(*c*) Other Works.

Rs. 5,157-14-2.

54. Two forest watch-houses in the Northern Division of Kánara and 3 in the Central Division were built at a cost of Rs. 300 each, and, in the Southern Division of Kánara, a rest-house and 2 guard-houses built for Rs. 900. A depôt-house was commenced on the bandar at Honávar, but, owing to objections raised by the Customs' authorities, the work was interrupted.

55. In the Belgaum-Division, a forest rest-house was completed and 2 guard-houses. Three watch-houses were also built in Dhárwár.

56. Repairs to various cart-tracks in forests and to buildings were made as usual.

CHAPTER IV.

YIELD AND WORKING.

57. The following table exhibits the yield of forests of the several Divisions of the Southern Circle for the two years 1885-86 and 1886-87 :—

Divisions.	Description.	1885-86.		1886-87.	
		Number of Logs.	Khandis.	Number of Logs.	Khandis.
Northern Division of Kánara	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak	4,224	7,602	7,896	15,345
	Do. round pieces for sleepers	49,964	...	5,552	...
	Do. poles	19,317	...	2,961	...
	Blackwood	470	627	131	180
	Do. poles	...	...	28	...
	Junglewood	365	657	1,155	2,196
	Firewood ... ... Tons.	448	...	526	...
	Charcoal	...	12	...	14
	Myrobolans	...	2,429	...	2,386
	(2).—Removal of Produce by Purchasers for local consumption on payment of fees.				
	Junglewood	...	2,940	...	4,656
	Do. poles	10,304	...	9,385	...
	Bámbus	2,57,217	...	4,20,591	...
	Firewood ... ... Cubic feet.	4,293	...	11,67,160	...
	Do. ... ... Cart-loads.	...	...	1,368	...
	Do. ... ... Head-loads.	30,956	...	35,716	...
	Charcoal ... ... Maunds.	631	...	440	...
	Myrobolans	...	29	...	...
	Baini trees	...	...	11	...
	Kárvi ... ... Head-loads.	48	...	513	...
	Rattan ... ... Do.	2	...	52	...
	Creeper for baskets	...	...	1,643	...
	(3).—Removal of Produce for export on payment of fees.				
	Junglewood	...	4,000	...	4,195
	Bámbus	19,39,725	...	20,66,625	...
	Firewood ... ... Tons.	20,853	...	8,834	...
	Kárvi ... ... Head-loads.	...	...	1,000	...
	(4).—Free Grants of Forest Produce.				
	Junglewood	...	2,516	...	2,450
	Bámbus	19,620	...	33,346	...
	Firewood ... ... Cart-loads.	31	...	...	...
	Do. ... ... Head-loads.	...	...	100	...
Central Division of Kánara.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak	1,371	2,196	3,440	6,551
	Do. round pieces for sleepers	1,07,402	...	23,071	...
	Do. poles	8,147	...	11,223	...
	Sandalwood	...	13	...	13
	Ebonywood	5	1	...	...
	Blackwood	35	38	2	3
	Junglewood	467	678	110	191
	Do. poles	114	...	59	5
	Jiráitwood pieces	...	...	643	...
	Bámbus	...	...	85	...

Divisions.	Description.	1885-86. Number of Logs.	1885-86. Khandis.	1886-87. Number of Logs.	1886-87. Khandis.
Central Division of Kánara—*continued.*	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency)*—continued.				
	Myrobolans	...	334	...	327
	Shigékái	...	5	...	4
	Brakes for traffic carts ... ... No.	1,653	...	...	...
	Grass bundles	9,32,783	...	77,600	...
	Agricultural implements	125	...	...	...
	Firewood ... ... Cart-loads	401	...	14	...
	Do. ... ... Stacks.	549	...	1,785	...
	(2).—Removal of Produce by Purchasers for local consumption on the payment of fees.				
	Teak	115	115	...	101
	Blackwood	...	4	...	220
	Junglewood	...	1,903	...	2,637
	Do. poles or pieces	434	...	1,015	...
	Do. plants	...	...	9	...
	Bámbus	1,66,863	...	1,59,764	...
	Firewood ... ... Cart-loads.	1,174	...	1,156	...
	Do. ... ... Head-loads.	72,447	...	81,230	...
	Charcoal ... ... Maunds.	929	...	806	...
	Baini trees	6	...	41	...
	Rattan ... ... Head-loads.	45	...	187	...
	Khairáwood	...	...	6	...
	(3).—Removal of Produce for export on payment of fees.				
	Firewood ... ... Cart-loads.	14	....	16	...
	Do. ... ... Tons.	4,290	...	7,299	...
	Do. ... ... Stacks.	...	...	2	...
	Bámbus	8,02,292	...	6,20,800	...
	Dry do. ... ... Cart-loads.	...	...	208	...
	Earth ... ... Do.	...	...	61	...
	Baini trees	8	...	7	...
	Shigékái	...	5	...	...
	(4).—Free Grants of Forest Produce.				
	Junglewood	...	1,943	...	1,485
	Do. poles	269	...	605	...
	Bámbus	19,215	...	3,000	...
	Sheebs	...	...	8,650	...
	Firewood ... ... Cart-loads.	146	...	34	...
	Do. ... ... Head-loads.	800	...	525	...
	Rattans ... ... No.	200	...	...	...
Southern Division of Kánara.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak	103	131	568	934
	Do. poles	1,492	478	1,788	483
	Do. round pieces for sleepers	38,329	...	6,942	...
	Teak slabs	44,515	...	690	...
	Sandalwood	2,437	69	609	6
	Do. whitewood chips ... Carts.	12	...	½	...
	Do. saw-dust ... ... Sers.	...	...	12	...
	Blackwood	2	2	...	...
	Junglewood	479	622	431	619
	Do. poles	...	...	325	93
	Myrobolans	...	2,073	...	2,103-3
	Shigékái	...	11	...	57-12-20

Divisions.	Description.	1885-86. Number of Logs.	1885-86. Khandis.	1886-87. Number of Logs.	1886-87. Khandis.
Southern Division of Kánara—*continued.*	*(2).—Removal of Produce by Purchasers for local consumption on payment of fees.*				
	Teak	...	8	...	41
	Blackwood	...	7	...	2
	Junglewood	...	8,083	...	7,929
	Do. poles	246	...	25	...
	Firewood ... ... Cart-loads.	3,535	...	3,744	...
	Do. ... ... Head-loads.	66,659	...	56,675	...
	Charcoal ... ... Maunds.	286	...	284	...
	Bámbus	1,57,950	...	1,41,580	...
	Rattans ... ... Loads.	432	...	431	...
	Palmyra trees	136	...	89	...
	Thorns ... ... Cart-loads.	29	...	16	...
	Hadchári leaves ... ... Maunds.	80	...	...	...
	(3).—Removal of Produce for export on payment of fees.				
	Junglewood	...	299	...	...
	Teak	...	181	...	...
	Blackwood	...	2	...	...
	Firewood ... ... Tons.	...	18	...	...
	Shigebark	...	968	...	542-5
	Bámbus	1,23,825	...	19,350	...
	(4).—Free Grants of Forest Produce.				
	Junglewood	...	1,751	...	2,266
	Do. poles	...	375	...	297
	Bámbus	3,575	...	16,650	...
	Rattans ... ... Loads.	...	...	4	...
Belgaum.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak logs...	2	...	85	...
	Do. round pieces for sleepers	13,714	...	7,918	...
	Do. poles	4,247	...	2,110	...
	Do. slabs	7,400	...	14,189	...
	Do. end pieces	921	...	760	...
	Sandalwood pieces	8	...	...	...
	Blackwood	43	...	...	...
	Do. poles	...	...	3,772	...
	Junglewood	1	...	...	...
	Do. poles	26,088	...	12,500	...
	Firewood ... ...Stacks.	18,284	...	12,375	...
	Do. ... ... Cart-loads.	94	...	54	...
	Do. ... ... Head-loads.	19,239	...	19,275	...
	Do. ... ... Cubic feet.	91,700	...	14,64,645½	...
	Myrobolans	...	7,679	...	1,800
	Do. ... ... Baskets.	...	...	55,639	...
	(2).—Removal of Produce by Purchasers for local consumption on payment of fees, and (3).—Removal of Produce for export on payment of fees.				
	Sandalwood pieces	...	...	4	...
	Teak poles	45	...	3	...
	Blackwood	2	...	5	...
	Junglewood	3	...	...	...

Divisions.	Description,	1885-86. Number of Logs.	1885-86. Khandis.	1886-87. Number of Logs.	1886-87. Khandis.
Belgaum—*continued.*	*(2).—Removal of Produce by Purchasers for local consumption on payment of fees, and (3).—Removal of Produce for export on payment of fees*—continued.				
	Junglewood pieces and poles	3,067	...	2,681	...
	Do. rafters	75	...	105	...
	Bámbus	2,47,610	...	4,06,341	...
	Firewood ... Stacks and Cart-loads.	4,576	...	2,950	...
	Do. ... ... Head-loads.	57,287	...	97,018	...
	Do. ... ...Bullock-loads.	...	...	429	...
	Charcoal ... ... Maunds.	4,530	...	1,040	...
	Thorns ... ... Cart-loads.	...	...	78	...
	Do. ... ... Head-loads.	384	...	171	...
	Rattans ... ... Do.	324	...	234	...
	Shigékái ... ... Maunds.	575	...	375	...
	Honey ... ... Do.	45	...	50	...
	Stone ... ... Cart-loads.	4,222	...	5,605	...
	Do. ... ...Bullock-loads.	...	...	820	...
	Do. ... ... Cubic feet.	...	...	1,87,718	...
	Earth ... ... Cart-loads.	...	...	105	...
	Sand ... ... Cubic feet.	...	...	32,593	...
	Kárvi ... ... Cart-loads.	183	...	267	...
	Nim trees	...	...	3	...
	Bábulwood	...	...	32	...
	Tárvád bark ... ...Bullock-loads.	...	...	148	...
	Coffee ... ... Sers.	...	...	35	...
	Tamarind... ... ... Maunds.	...	...	10	...
	Grass pullies	2,882	...	100	...
	Sale of toddy trees	38	...	88	...
	Tapping do.	132	...	91	...
	Gum ... ... Maunds.	25	...	20	...
	(4).—Free Grants of Forest Produce.				
	Junglewood	1,175	246	1,822	301
	Do. poles	126	10	3,086	206
	Bámbus	7,600	...	2,910	...
Dhárwár.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak rafters	15,793	...	14,849	...
	Junglewood rafters	2,946	...	1,710	...
	Sleepers	...	...	4,868	...
	Round pieces for sleepers	...	...	74	...
	Slabs	...	...	6,818	...
	Agricultural implements	32,112	...	27,804	...
	Firewood... ... ...Stacks.	9,126	...	6,752	...
	Sandalwood ... ... Billets.	...	14	1,678	...
	Do. ... ...Pieces.	372	...	80	...
	Do. ... ... Chips.	...	2	...	8½
	Myrobolans	...	10	...	3
	(2).—Removal of Produce by Purchasers for local consumption on the payment of fees.				
	Teak rafters	308	...	1	...
	Blackwood rafters	2	...	...	...
	Junglewood do.	220	...	26	...
	Agricultural implements	1,433	...	580	...
	Firewood... ... ... Cart-loads.	953	..	397	...
	Do. ... ...Donkey-loads.	8,785	...	1,765	...

Divisions.	Description.	1885-86. Number of Logs.	1885-86. Khandis.	1886-87. Number of Logs.	1886-87. Khandis.
Dhárwár—*continued.*	*(2).—Removal of Produce by Purchasers for local consumption on payment of fees*—continued.				
	Firewood ... ... Buffalo-loads	...	...	...	...
	Do. ... ... Head-loads.	20,336	...	17,817	...
	Bámbus	3,11,991	...	3,64,199	...
	Dry bámbus ... ... Head-loads.	5,563	...	11,791	...
	Thorns ... ...Bullock-loads.	71	...	111	...
	Do. ... ... Cart-loads.	1,445	...	1,219	...
	Stones ... ... Do.	4,578	...	4,311	...
	Do. ... ... Cubic feet.	...	...	2,200	...
	Grass pullies	26,375	...	15,075	...
	Do. ... ... Head-loads.	3,937	...	4,087	...
	Do. ... ... Cart-loads.	...	...	3	...
	Earth ... ... Do.	39	...	327	...
	Do. ... ... Buffalo-loads.	48	...	...	...
	(4).—Free Grants of Forest Produce.				
	Teak	...	...	38	...
	Junglewood	...	...	112	...
Bijápur.	*(2).—Removal of Produce by Purchasers for local consumption on payment of fees.*				
	Sandalwood pieces	1	...	20	...
	Timber ... ... Cart-loads.	238½	...	152	...
	Do. ... ...Pieces.	211	...	17	...
	Do. ... ... Cubic feet.	...	...	557	...
	Jantis ... ... Head-loads.	11,452	...	6,471	...
	Firewood... ... ... Cart-loads.	3,034	...	3,702	...
	Do. ... ...Bullock-loads.	5,689	...	4,899	...
	Do. ... ...Donkey-loads.	8,895	...	13,316	...
	Do. ... ... Horse-loads.	183	...	242	...
	Do. ... ... Head-loads.	81,928	...	1,25,898	...
	Shindi-trees	...	...	400	...
	Thorns ... ...Heaps.	748	...	710	...
	Do. ... ... Head-loads.	548	...	743	...
	Leaves ... ... Do.	5,348	...	6,794	...
	Do. ... ...Bullock-loads.	115	...	71	...
	Tárvád bark ... ... Do.	...	...	516	...
	Do. ... ... Cart-loads.	...	...	8	...
	Do. ... ... Head-loads.	...	...	1,658	...
	Stones ... ... Cart-loads.	18,515	...	24,047	...
	Do. ... ...Bullock-loads.	4,247	...	982	...
	Do. taken by the Southern Marátha Railway Company Cubic feet.	11,36,653	...	3,69,011	...
	Do. ... ... Head-loads.	2,982	...	3,686	...
	Earth ... ... Cart-loads.	292	...	527	...
	Do. ... ...Bullock-loads.	1,320	...	4,598	...
	Do. ... ... Head-loads.	2,918	...	1,600	...
	Do. ... ...Donkey-loads.	2,404	...	3,735	...
	Grass bundles	26,000	...	...	...
	Gum ... ... Maunds.	...	...	10	...
	Honey ... ... Do.	...	...	3	...
Kolába Division.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Teak beams	442	...	744	...
	Poles, 1st-class	1,506	...	2,306	...
	Do. 2nd do.	2,013	...	3,167	...

Divisions.	Description.	1885-86. Number of Logs.	1885-86. Khandis.	1886-87. Number of Logs.	1886-87. Khandis.
Kolába Division—*continued.*	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency)*—continued.				
	Poles, 3rd class	2,061	...	3,574	...
	Do. 4th do.	1,833	...	2,087	...
	Miscellaneous pieces	1,655	...	2,909	...
	Shigékái	...	12	...	...
	(2).—Removal of Produce by Purchasers for local consumption on payment of fees and (3).—Removal of Produce for export on payment of fees.				
	Teak pieces including beams	1,11,417	...	1,25,559	...
	Poles, 1st class				
	Do. 2nd do.				
	Do. 3rd do.				
	Do. 4th do.				
	Miscellaneous pieces				
	Firewood... ... ...Kowl Khandis.	98,795	...	55,000	...
	(4).—Free Grants of Forest Produce.				
	Teak rafters	2,297	...	5,984	...
Ratnágiri Division.	*(1).—Through Departmental Operations (Forest Produce brought to Depôts by Government Agency).*				
	Beams	1,676	...	1,766	...
	Poles, 1st class	2,640	...	2,568	...
	Do. 2nd do.	5,280	...	4,574	...
	Do. 3rd do.	6,397	...	7,205	...
	Do. 4th do.	4,955	...	4,937	...
	Miscellaneous pieces	6,940	...	5,534	...
	Firewood... ... ... Cubic feet.	39,372	...	1,076½	...
	Hirda	...	8	...	4½

58. The principal variations, as compared with the previous year, are as follows :—

A.—NORTHERN, CENTRAL, AND SOUTHERN DIVISIONS OF KÁNARA.

1.—Departmental Operations.

59. The outturn of teak brought to depôts exceeded that of the previous year by 6,206 logs measuring 12,901 khandis, but the number of teak-poles and of round pieces for sleepers was less by 12,984 and 1,60,130, respectively.

60. The outturn of sleepers was 89,990 against 2,94,379 in the previous year.

61. Of blackwood there was a decrease of 484 khandis.

62. The junglewood brought in was more by 1,049 khandis; in 1885-86 1,957 khandis were brought in, and in 1886-87 3,006 khandis.

63. The yield in myrobolans was 4,817 khandis in 1886-87 and 4,836 in 1885-86.

64. The sandalwood was 19 khandis in 1886-87 and 82 in the previous year.

2.—Removals by Purchasers.

65. The yield exceeded the previous year's yield by 2,296 khandis of junglewood, 19 khandis of teak, 211 of blackwood, 1,39,905 bámbus, 1,559 cart-loads of firewood, 3,559 head-loads of firewood, and 11,62,867 cubic feet of firewood.

66. On the other hand, there was a falling-off of 104 khandis of junglewood, 1,59,067 bámbus, and 9,028 tons of firewood removed for export.

67. The free grants made in the Kánara districts are as follows :—

	Value. Rs.	a.	p.
1885-86	17,004	5	2
1886-87	17,699	0	9

B.—BELGAUM.

1.—Departmental Agency.

68. Almost all the items under the head of Departmental Operations show a decrease, but this is more than compensated for by the quantity of firewood supplied to the Southern Marátha Railway Company, which amounted to 14,64,645½ cubic feet, against 91,700 cubic feet supplied during the previous year.

69. The yield of myrobolans was 19,252 baskets less than in 1885-86. The crop of the preceding year was extraordinarily good.

2.—Removals by Purchasers.

70. Under this heading 1,58,731 bámbus, 429 bullock-loads, and 39,731 head-loads of firewood were removed in excess of the quantity extracted during the previous year. Also a greater quantity of stones and earth was removed.

71. The free grants made are as under :—

	Value. Rs.	a.	p.
1885-86	767	6	8
1886-87	1,372	0	4

C.—DHA'RWA'R.

72. The yield in all the items, excepting bámbus and sandalwood, shows a decrease; but, as a set off to this, 5,102 sleepers, 9′ × 8″ × 5″, were supplied to the Southern Marátha Railway Company.

73. Forest rights have been granted to Inámdárs throughout the district and the sale from their forests to a great extent relieved the Government forests from the strain which the increased demand for wood would otherwise have brought upon them.

D.—BIJA'PUR.

74. The items of increase in the yield of the year are chiefly firewood, timber, thorns, tárvád bark, leaves, and earth.

75. A considerable quantity of small-wood was sold from the private forests of Inámdárs; hence the decrease in the quantity removed from the Government forests.

E.—KOLA'BA.

76. The yield in teak-beams and pieces of all classes removed during the year shows a marked increase, but the firewood removed was less by 43,795 kowl-khandis.

F.—RATNA'GIRI.

77. All the items show a decrease in the year's yield, excepting teak-beams, which were 90 in excess of the previous year.

78. The following exhibits the free grants of wood made in the last 3 Divisions during the year :—

	Value. Rs.	a.	p.
Dhárwár	350	0	0
Kolába	2,199	0	0
Ratnágiri	265	8	0

79. The free grants made had the special sanction of Government.

KA'NARA SAW-MILLS.

80. The Saw-Mills at Kannigeri worked, in all, 297 days during the year, and 289 days in the previous one. Timber, amounting to 40,566 cubic feet of teak, 238 of blackwood, and 948 of junglewood, or 41,752 cubic feet in all, was cut up, but only 23,700 in 1885-86. In addition, six-feet sleeper-pieces were converted into 375 cubic feet of sawn timber.

81. The outturn in clean timber exceeded that of the previous year by 7,839 cubic feet, that in the year 1886-87 being 25,758 cubic feet against 17,919 in 1885-86, but during the year under report only 348 sleepers were cut up at Kannigeri. The percentage of wastage in cutting-up teak was 38·8 in 1886-87 and 24·3 in 1885-86. This increase is owing to the logs being defective.

82. The wastage for blackwood cannot be fairly stated. The demand for blackwood from the Saw-Mills is very small, and each order, however small, generally necessitates the cutting-up of a whole log, the remaining portion of which is not converted into sawn timber, nor can it be returned to the Depôt-account ; and as a sawn blackwood-log quickly splits and deteriorates, what remains after cutting is generally useless.

83. The wastage in junglewood was also high, *viz.*, 70·5 per cent. During the whole year the outturn was only 279 cubic feet ; the demand was so small that no logs have lately been brought to Depôt, and such logs as have been brought were lying in the jungles for some years. Unless junglewood logs are cut up soon after they have been felled and squared, they crack and develop numerous defects, and scarcely yield more than $\frac{1}{4}$ of their depôt-measurements in clean timber.

84. The machinery at Kirwatti cut up 4,197 sleepers $6' \times 8'' \times 4\frac{1}{2}''$, $6' \times 10'' \times 4\frac{1}{2}''$, and $7' \times 9'' \times 5''$, and, from defective sleepers, 63 cubic feet of clean timber, for the Southern Marátha Railway Company.

85. The sleeper saw-machinery at Kolikeri worked up till 31st December 1886, when, in consequence of stoppage of No. 3 engine for repairs to the boiler at Kannigeri, the engine and the machinery were removed to Kannigeri, and have ever since remained there.

86. During the period the machinery was at Kolikeri, 4,761 sleepers were cut up, and 2,838 cubic feet of clean timber was cut up entirely from defective sleeper-pieces and slabs.

87. The receipts at the Mills were Rs. 77,619. Of this sum Rs. 51,311 were realized from clean timber and Rs. 26,308 from sleepers. In the previous year Rs. 22,154 from clean timber and Rs. 92,198 from sleepers were obtained, and the expenditure was Rs. 13,716 in 1886-87 against Rs. 26,944 in 1885-86.

88. An accident to the machinery occurred at Kannigeri on the 15th July by the piston-rod-nut of one of the engines getting loose ; the piston was smashed to pieces, the piston-rod bent badly, the cylinder scored, and the crank shaft bent. As the Kirwatti engine was out of repair at the same time, and was a sister-engine to the one damaged at Kannigeri, the piston-rod and crank shaft were at once brought from Kirwatti to replace the damaged portions at Kannigeri. The Divisional Officer, Mr. Haselden, got a new piston and rod made at Hubli, and then fitted them at Kannigeri, and the engine has been working with them since the 25th August 1886.

89. During the year, No. 3 boiler sprung a leak several times, but so badly on the 10th December as to render the boiler useless and not worth repairing. The purchase of a new one was conditionally sanctioned by Government.

90 (5). The following table gives summary of produce removed from the orests :—

Description of Produce.		1885-86.	1886-87.
Teak	... Khandis.	10,833	22,972
Do. sleepers	... ...	.....	4,868
Do. round pieces for sleepers ...	... ...	2,09,409	43,557
Do. poles or rafters... ...	... ...	1,89,748	1,07,915
Do. slabs, pieces, sotás, &c. ...	... ...	1,676	30,900
Do. beams	... ...	442	1,766
Blackwood	... Khandis.	567	410
Do. rafters, poles, and pieces	... ...	2	3,800
Ebonywood	... ...	5	.....
Sandalwood	... Khandis.	98	19
Do. billets, &c. ...	... ...	.....	1,778
Do. whitewood chips ...	... Carts.	.....	½
Do. saw-dust... ...	... Sers.	.....	12
Do. chips	... Khandis.	.....	8½
Junglewood	... Do.	26,062	28,854
Do. rafters, poles, and pieces	... ...	44,262	31,940
Timber	... Cart-loads.	238	152
Do. pieces	... ...	.....	17
Do.	... Cubic feet.	.....	557
Jantis	... Head-loads.	11,452	6,471
Miscellaneous pieces	... Nos.	8,595	8,443
Myrobolans	... Khandis.	12,562	6,628½
Do.	... Baskets.	.....	55,639
Shigékái pods	... Khandis.	62	437
Do. bark	... Do.	48	542
Bámbus	... No.	40,57,483	42,55,241
Dry do.	... Cart-loads.	.....	208
Do.	...Head-loads	5,563	11,791
Sheebs	... ...	.....	8,650
Firewood...	... Tons.	25,609	16,659
Do.	... Cart-loads.	41,917	13,435
Do.	...Head-loads.	3,50,652	4,34,254
Do.	Donkey-loads.	11,680	15,081
Do.	Bullock-loads.	5,689	5,328
Do.	Horse-loads.	183	242
Do.	Kowl Khandis.	98,795	55,000
Do.	... Stacks.	.....	20,914
Do.	... Cubic feet.	1,35,365	26,32,882
Charcoal	... Khandis.	329	142½
Brakes for traffic carts ...	... No.	1,653	...
Agricultural implements ...	... ...	33,670	29,027
Thorns	... Cart-loads.	1,474	1,313
Do.	Head-loads.	932	914
Do.	Bullock-loads.	71	111
Do.	... Heaps.	748	710
Stones	... Cart-loads.	27,315	29,963
Do.	Bullock-loads.	4,247	1,802
Do.	...Head-loads.	2,982	3,686
Do.	... Cubic feet.	11,36,653	5,58,929
Earth	.. Cart-loads.	331	1,020
Do.	Buffalo-loads.	48	.....
Do.	Bullock-loads.	1,320	4,598
Do.	Donkey-loads.	2,404	3,735
Do.	Head-loads.	2,918	1,600
Bábulwood	... ...	.....	32
Tárvád bark	... Cart-loads.	.....	8
Do.	Bullock-loads.	.....	664
Do.	...Head-loads.	.....	1,658
Honey	... Maunds.	45	53
Rattan or cane	... Loads.	1,005	435
Do.	Head-loads.	.....	473
Kárvi	... Cart-loads.	183	267
Do.	Head-loads.	48	1,513
Hadchari leaves	... Maunds.	80	.....

Description of Produce.		1885-86.	1886-87.
Leaves	Head-loads.	5,348	6,794
Do.	Bullock-loads.	115	71
Palmyra trees	... No.	136	89
Toddy trees	... „	170	88
Tapping trees	... ...	.....	91
Baini trees	... ...	14	59
Gum	... Maunds.	25	30
Grass bundles or pullies ...	... ...	9,88,040	92,775
Grass	...Head-loads.	3,937	4,087
Do.	... Cart-loads.	.....	3
Sand	... Cubic feet.	.....	32,593
Creeper for baskets	... ...	.....	1,843
Coffee	... Sers.	.....	35
Tamarind	... Maunds.	.....	10
Nim trees	... ...	.....	3
Shindi trees	... ...	.....	400

CHAPTER V.

Financial Results.

91. The details of the financial results and of the year's transactions are shown in accompanying forms, Nos. 58 to 62.

92. The receipts and expenditure of the Southern Circle for the years 1885-86 and 1886-87 were :—

Year.	Receipts.	Charges.	Surplus or Net Revenue.
	Rs.	Rs.	Rs.
1885-86	17,92,114	7,22,586	10,69,528
1886-87	14,33,793	6,94,614	7,39,179

93. Thus, the gross receipts in 1886-87 are less than in the previous year by Rs. 3,58,321, and the charges are less by Rs. 27,972. The receipts have, however, considerably exceeded those of all past years, excepting 1885-86. During that year the revenue on account of teak-sleepers alone amounted to over 6 lákhs of rupees. In the year 1886-87 far fewer sleepers were supplied, and this accounts for the decrease. In respect of ordinary revenue, the results are quite satisfactory.

94. Form No. 58, appended, shows the receipts and expenditure for each division under the several sub-heads.

95. The following statement shows the figures for 1885-86 and 1886-87 under each main head :—

Heads of Revenue and Charges.	1885-86.	1886-87.	Increase.	Decrease.
Receipts.	Rs.	Rs.	Rs.	Rs.
I.—Timber and other produce removed from the forests by Government agency ...	13,55,730	10,17,495	...	3,38,235
II.—Timber and other produce removed from the forests by consumers or purchasers .	4,17,509	3,93,268	...	24,241
III.—Confiscated drift and waif wood ...	2,011	7,594	5,583	...
IV.—Revenue from forests not managed by Government	2,926	207	...	2,719
V.—Miscellaneous	13,938	15,229	1,291	...
Total Receipts ...	17,92,114	14,33,793	6,874	3,65,195

Heads of Revenue and Charges.	1885-86.	1886-87.	Increase.	Decrease.
EXPENDITURE.	Rs.	Rs.	Rs.	Rs.
A.—Conservancy and Works.				
I.—Timber and other produce removed from forests by Government agency ...	4,25,536	3,90,532	...	35,004
II.—Timber and other produce removed from the forests by consumers or purchasers ...	15,054	5,077	...	9,977
III.—Confiscated drift and waif wood ...	143	225	82	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government	25,771	16,419	...	9,352
VI.—Live-stock, stores, tools and plant ...	2,967	1,575	...	1,392
VII.—Communications and buildings ...	5,957	6,552	595	...
VIII.—Demarcation, improvement, and extension of forests	20,324	23,518	3,194	...
IX.—Miscellaneous	527	637	110	...
Total A.—Conservancy and Works ...	4,96,279	4,44,535	3,981	55,725
B.—Establishment.				
I.—Salaries	1,74,879	1,99,124	24,245	...
II.—Travelling allowances	36,971	34,726	...	2,245
III.—Contingencies...	14,457	16,229	1,772	...
Total B.—Establishments ...	2,26,307	2,50,079	26,017	2,245
Total Charges—A and B ...	7,22,586	6,94,614	29,998	57,970

RECEIPTS.

96. Under the sub-head *a* of *I* the decrease occurs chiefly in the 3 divisions of Kánara and in Ratnágiri. In the former it is owing to a less number of sleepers having been supplied to the Southern Marátha Railway Company, and in the latter to unfavourable sales. On the other hand, the revenue in Dhárwár and Belgaum show a considerable increase over that of the previous year.

97. The revenue under *I b—Firewood and Charcoal*—shows an increase of Rs. 64,905. This is due to increased quantities of fuel having been supplied to the Railway Company from Belgaum, where the receipts rose from Rs. 18,888 in 1885-86 to Rs. 89,486 in 1886-87. The revenue under this head cannot in future be less, unless the Railway Company substitute coal for wood.

98. The revenue from sandalwood and myrobolans has fallen off this year. In the case of the former, cuttings were curtailed owing to the market having been glutted with sandalwood from Inámdárs' forests. In that of the latter, the prices obtained for the season's crop were bad.

99. The receipts under *II a* were Rs. 1,73,610 against Rs. 1,54,430 in 1885-86.

100. There was a decrease in the whole Circle under *II c*, owing to bámbus having seeded in certain tracts, but the revenue of the Northern Division of Kánara shows an increase. A decrease is also met with under *II d—Grazing and Fodder Grass*—owing to murrain. The decrease under *II e* is due to the sales of minor produce (which is farmed out) not having been as favourable as in the previous year.

101. On the side of expenditure there is a decrease of Rs. 27,972 in the total figures. The only item of increase calling for remark is under B *I c*. The increase is owing to the re-organization of the Subordinate Protective Establishment sanctioned in Government Resolution No. 2913 of the 13th October 1885.

CHAPTER VI.

GENERAL REMARKS.

102. Colonel W. Peyton retired from Civil Service on the 27th December 1886, and was succeeded in the Conservatorship by me.

103. Mr. Hight resumed charge of the Bijápur Division on the 31st May from Mr. Fernandez, who returned to his permanent post at Belgaum.

104. Mr. R. P. Ryan was transferred to Kolába and Mr. Stewart to Ratnágiri.

105. For three months, during Mr. Murray's absence on leave, Mr. Hight had charge of Dhárwár and Bijápur. He handed over charge of the latter to Mr. G. M. Ryan on the 30th March, and took permanent charge of Dhárwár in place of Mr. Murray, transferred to Belgaum.

106. Mr. D'Cruz held charge of Belgaum from 15th January to 14th March.

107. No other important changes or postings of officers of the Department took place during the year.

108. The following officers conducted the settlement work :—

In Kánara Mr. Lucas up to the 12th October, and from that date Mr. R. T. Wingate. In Belgaum, Mr. Woodward. In Kolába Mr. Sinclair, assisted by Mr. Haripad Mitra. In Ratnágiri, Mr. Logan ; and in Bijápur, Mr. Tucker.

109. The system adopted in Kánara and Kolába, of selecting and demarcating forests before the proposed areas and classification have received the sanction of Government, has this drawback, that if Government does not approve everything a settlement officer has proposed, much unnecessary expense may have been incurred, as the erection of boundary-marks and the clearing of rides separating protected from reserved and portions of excluded from included forests are a heavy charge in most demarcation work. The system appears to be peculiar to Kánara and Kolába.

110. Messrs. Barrett and Talbot continued on furlough during the year.

111. Mr. D'Cruz was granted a further extension of service to 21st October 1888.

112. Three men, sent to study forestry at the Poona College in 1885, failed to pass the final examination, but were allowed to continue their studies. There are now 4 men from this Circle studying at Poona.

113. Colonel Peyton had charge of the Circle during nine months of the year, and I am authorized by him to state that he is perfectly satisfied with the work of the officers who served under him during that time. I can say the same of them for the short period during which I had charge of the Circle.

114. The following account shows the movements of Colonel Peyton and myself during the season :—

At the commencement of the year the Conservator's camp was at Sirsi. Thence Colonel Peyton returned to Yellápur on the 19th May 1886. He left Yellápur, with office, on the 3rd July for Poona, which was reached on the 5th idem, and remained there to attend the sittings of the Forest Commission till 8th October, on which day he left for Yellápur for the purpose of holding hirda sales, and returned to Poona on the 29th October. The sittings of the Commission having been adjourned on the 22nd November 1886, Colonel Peyton went to Yellápur, with office, and remained there till the 15th December, when he again proceeded to Poona. The Commission having closed its sittings, Colonel Peyton returned to Yellápur on the 20th. On the 26th he marched to Haliyál, and on the 27th delivered over charge of the Conservator's office to me.

From Haliyál I went to Nagargali, where operations for the supply of fuel to the railway were in progress, and thence started for Dhárwár, which was reached on the 18th January.

At Dhárwár I met the Divisional Officer, and his office accounts were examined. Camp was then moved to Háveri, *viâ* Hubli and Bankápur. From Háveri camp was moved to Guttal, returning on the 7th February to Háveri.

On the 10th I left for Hángal, and thence proceeded to Sirsi, through Yekambi. At Sirsi I was met by the Divisional Officer, and Mr. Wingate, the Forest Settlement Officer.

On the 21st February camp was changed to Kansur, and the next day Siddápur was reached. From there I went on to Kodkani, and returned on the 27th.

On the 2nd March Sirsi was reached. From Sirsi I proceeded to Malgi, and halted there till the 11th, arriving at Yellápur *viâ* Mundgod on the 15th. There I visited the Saw Mills. The Divisional Officer, Mr. B. J. Haselden, was also there, and his office accounts were examined. On the 22nd camp was moved to Kolikeri, and thence to Kirwatti on the 27th, where sleeper operations were inspected. On the 1st April 1887 my camp was at Tattihalla.

J. L. L. MacGREGOR,
Conservator of Forests, S.C.

Conservator's Office, S. C.,
Camp Belgaum, 18th October 1887.

List of Statements accompanying the Forest Administration Report of the Conservator of Forests, Southern Circle, for 1886-87.

Form No.	
A.	Statement showing the progress of the Forest Demarcation and Settlement work up to 1st April 1887.
49	Area of Reserved Forests, 1886-87.
49 A.	Area of Protected Forests, 1886-87.
50	Register of breaches of Forest Rules during 1886-87.
51	Area of Forest Tracts protected from fire during the dry season of 1886.
52	Area of Plantations, 1886-87.
53	Trees felled by Government agency during the year 1886-87 (selection fellings).
54	Outturn of Timber and Firewood during the year 1886-87.
55	Outturn of Minor Produce for 1886-87.
56	Account of Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1886-87.
57	Abstract showing the value of Timber and other produce at sale depôts for the year 1886-87.
58	Summary of Revenue and Expenditure of the different Divisions during the year 1886-87.
59	Account current for the year 1886-87.
60	Revenue received and outstandings on account of revenue during 1886-87.
61	Outstandings and liabilities on account of contractors and disbursers for 1886-87.
62	Financial results of the year 1886-87.

J. L. L. MacGREGOR,
Conservator of Forests, S.C

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A.

Forest Department, Bombay, Southern Circle.

Statement showing the Progress of the Forest Demarcation and Settlement Work up to 1st April 1887.

Circle.	Districts.	Area originally and, as a preliminary measure to final settlement, declared under the Forest Act, 1878.						Area finally disposed of up to the 1st April 1887.						Area remaining to be dealt with.						Remarks.
		Reserved Forest.		Protected Forest.		Total of both.		Reserved Forest.		Protected Forest.		Total of both.		Reserved Forest.		Protected Forest.		Total of both.		
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	
Southern Circle.	Kánara	466	350	3,048	24	3,514	374	469	161	322	93	791	254	214	439	2,508	321	2,723	120	
	Belgaum ...	447	541	262	46 9/40	709	587 9/40	184	198	165	168 9/40	349	366 9/40	360	221	...	...	360	221	
	Dhárwár ...	171	425	260	261	432	46	171	425	260	261	432	46	...	...	...	...	...	...	
	Kolába	293	367¼	84	144 19/40	377	511 29/40	147	268	47	54	194	322	146	99¼	37	90 19/40	183	189 29/40	
	Bijápur... ...	155	115	89	409	244	524	...	...	...	...	...	....	155	115	89	409	244	524	
	Ratnágiri ...	20	13	...	...	20	13	...	...	...	...	...	...	20	13	...	...	20	13	
	Total ...	1,554	531¼	3,744	244 7/10	5,299	135 19/20	972	412	794	576 9/40	1,767	348 9/40	896	247¼	2,635	180 19/40	3,531	427 29/40	

Conservator's Office, S. C.,
Dated Belgaum, the 18th October 1887.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

FORM No. 49.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Reserved Forests, 1886-87.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886.		Added during the year.	Excluded or transferred to other Heads.	Area on 31st March 1887.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
Northern Division, Kánara.	Kánara ...	Haliyál and Kárwár	2,98,437	466	...	...	2,98,437	466	...	
Central Division, Kánara.	Do. ...	Mundgod and Ankola	1,17,359	184	...	...	1,17,359	184	...	
Southern Division, Kánara.	Do. ...	Sirsi	21,771	34	...	...	21,771	34	...	
Belgaum ...	Belgaum ...	Khánápur, Belgaum, Chikodi, Gokák, Sampgaon and Athni.	3,14,962	492	...	...	3,14,962	492	...	
Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Hángal, Bankápur, Kod, Gadag, Ron, Nargund, Hubli and Ránebennur.	1,09,865	172	...	...	1,09,865	172	...	
Kolába... ...	Kolába ...	Alíbág, Panvel, Pen, Roha, Mahád and Mángaon.	1,87,888	294	$3,944\frac{1}{40}$	$\frac{3}{4}$	$1,91,831\frac{11}{40}$	300	...	
Bijápur ...	Bijápur ...	Bádámi, Hungund, Bijápur, Bágevádi, Muddebihál and Indi.	99,315	155	...	...	99,315	155	...	
Ratnágiri ...	Ratnágiri ...	Dápoli, Khed, Rájápur, Málvan, Chiplún, Sangameshvar.	12,813	20	...	...	12,813	20	...	
		Total ...	11,62,410	1,816	$3,944\frac{1}{40}$	$\frac{3}{4}$	$11,66,353\frac{11}{40}$	1,823	...	

Conservator's Office, S. C.,
Dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 49A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Protected Forests, 1886-87.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886.		Added during the year.	Excluded or transferred to other Heads.	Area on 31st March 1887.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
Northern Division, Kánara.	Kánara ...	Supa	4,62,944	723	...	...	4,62,944	723		
Central Division, Kánara.	Do. ...	Yellápur, Mundgod, Kumta and Ankola	5,68,209	888	...	...	5,68,209	888		
Southern Division, Kánara.	Do. ...	Sirsi, Siddápur, Honávar, and Bhatkal.	8,02,438	1,254	...	...	8,02,438	1,254		
Belgaum	Belgaum ...	Belgaum, Chikodi, Gokák, and Parasgad.	1,26,287	197	$16\frac{9}{40}$	...	1,26,303 $\frac{9}{40}$	197	No. 4498 of 22nd June 1886.	
Dhárwár	Dhárwár ...	Dhárwár, Kalghatgi, Bankápur, Kod, Hángal, Gadag, Ránebennur, Karajgi, and Hubli.	1,66,661	260	...	...	1,66,661	260		
Kolába ...	Kolába ...	Alíbág, Panvel, Pen, Roha, Mahád, Mángaon, and Nágothna	58,369	91	$3,036\frac{19}{40}$	$4,464\frac{21}{40}$	56,940 $\frac{31}{40}$	89		
Bijápur	Bijápur ...	Bágalkot, Hungund, Bijápur, Bágevádi and Indi.	364	1	...	...	364	1		
		Total ...	21,85,272	3,414	$3,052\frac{21}{40}$	$4,464\frac{21}{40}$	21,83,860	3,412		

Conservator's Office, S. C.,
Dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Prosecutions for Breaches of Forest Rules during 1886-87.

Forest Division and Civil District.	Cases pending from 1886-87.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Kánara District.														
Northern Division, Kánara ...	2	...	3	...	...	3	5	2	2	2	2	4	4	1
Central Division, do. ...	...	...	3	...	2	5	5	2	2	3	4	5	6	...
Southern Division, do. ...	...	...	9	...	...	9	9	8	8	...	...	8	8	1
Belgaum District.														
Belgaum	...	...	8	...	8	16	16	8	10	4	11	12	21	4
Dhárwár District.														
Dhárwár	...	...	8	...	3	11	11	5	5	6	10	11	15	...
Bijápur District.														
Bijápur	2	1	10	...	...	11	13	10	37	3	14	13	51	...
Ratnágiri District.														
Ratnágiri	7	3	10	1	1	15	22	19	45	2	23	21	68	1
Kolába District.														
Kolába	...	...	77	...	1	78	78	61	323	17	34	78	357	...
Total ...	11	4	128	1	15	148	159	115	432	37	98	152	530	7

Dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 51.

Forest Department, Bombay, Southern Circle.

Area of Forest Tracts protected from Fire during the Dry Season 1887, to accompany Report for 1886-87.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1886.	During Dry Season of 1887.			Lost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs. a. p.	
Northern Division, Kánara.	Haliyál ...	1880 ...	1,56,071	1,61,191	10,880	1,50,311	67 8 0	
	Supa ...	1884-85 ...	2,24,000	4,00,000	1,20,000	2,80,000	.....	
	Kárwár ...	1880 ...	1,37,084	1,37,246	500	1,36,746	.....	
		Total ...	5,17,155	6,98,437	1,31,380	5,67,057	67 8 0	
Central Division, Kánara.	Yellápur ...	1884-85 ...	1,85,917	1,31,709	20,960	1,10,749	37 9 6	
	Mundgod ...	1881-82 ...	70,204	47,263	47,263	...	1 5 0	
	Ankola	1885-86 ...	1,93,124	20,000	2,500	17,500	.....	
	Kumta	„ ...	1,52,711	380	380	...	.....	
		Total ...	6,01,956	1,99,352	71,103	1,28,249	38 14 6	
Belgaum	Belgaum ...	1885-86 ...	1,76,000	400	250	150	19 12 0	
	Khánápur ...	„ ...	2,36,800	1,366	...	1,366	99 3 0	
	Chikodi ...	„ ...	3,04,000	50	...	50	29 8 0	
		Total ...	7,16,800	1,816	250	1,566	148 7 0	
Dhárwár	Dhárwár ...	1883-84	15,000	31,926	15,360	16,566	41 10 0	
	Kalghatgi ...		10,240	49,917	44,718	5,199	119 11 0	
	Bankápur ...		20,480	24,141	2,560	21,581	29 13 0	
	Hangal		8,527	21,134	5,095	16,039	.....	
	Kod	1886-87 ...	...	26,513	3,445	23,068	1 0 0	
	Gadag	„ ...	...	46,759	35,077	11,682	.....	
		Total ...	54,247	2,00,390	1,06,255	94,135	192 2 0	
Bijápur	Bádámi	1874 ...	1,17,349	1,00,078	1,718	98,360	67 0 0	
	Bágalkot ...	„ ...	67,433	57,588	1,500	56,088	85 0 0	
		Total ...	1,84,782	1,57,666	3,218	1,54,448	152 0 0	
Ratnágiri	Dápoli	...	2,775	2,793	3	2,790	.....	The work of protection was carried on by Forest Guards.
	Chiplún	...	234	236	4	232	.....	
	Sangameshvar ...	...	2,639	2,710	87	2,623	.....	
	Málvan	...	406	64	5	59	.....	
		Total ...	6,054	5,803	99	5,704	.....	
Kolába	Alibág	...	29,715	30,155	125	30,030	0 8 0	
	Pen	...	70,958	71,838	336	71,502	0 4 6	
	Roha	...	39,127	39,203	11	39,192	1 1 0	
	Mángaon ...	...	32,640	27,980	1,136	26,844	.....	
	Mahád... ...	...	30,754	31,901	149	31,752	.....	
	Panvel	...	32,694	34,288	1,749	32,539	1 0 0	
		Total ...	2,35,888	2,35,365	3,506	2,31,859	2 13 6	
		Grand Total	44,39,882	14,98,829	3,15,811	11,83,018	601 13 0	

Conservator's Office, S. C.,
dated Belgaum, the 18th October 1887.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Plantations, 1886-87.

Division.	Name of Plantation.	Area in Acres. On 1st April 1886.	Added during the year.	Excluded during the year.	Area on 31st March 1887.	Receipts. Of the year. Rs. a. p.	Charges. Of the year. Rs. a. p.	Remarks.
	Regular Plantations.							
Northern Division, Kánara ...	Kadra	357	...	...	357	2 1 7	392 10 3	
	Mardi	110	...	...	110	.....	101 11 6	
	Sulgeri	110	...	...	110	.....	171 13 0	
	Kárwár	118	...	...	118	1,181 10 7	193 15 9	
	Bingi	20	...	...	20	.....	.....	
	Barchi	221	...	...	221	.....	38 14 0	
	Singatgeri	83	...	...	83	328 0 0	78 10 0	
	Bomanhalli	200	...	...	200	.....	.....	
Central Division, Kánara ...	Devarbail teak plantation ...	15	...	...	15	7 4 0	.....	
	Arbail do. ...	5	...	...	5	.....	.....	
Southern Division, Kánara.	Kasargod	290	8	...	298	.....	3,095 9 7	
Belgaum	Bidi	16	...	...	16	.....	.....	
Bijápur ...	Anantápur	82	5	...	87	.....	333 4 0	
	Mamdápur	160	4	...	164	.....	532 13 2	
Kolába	Warsoli	10	...	...	10	.....	.....	
	Ramdharni	50	...	...	50	.....	.....	
	Rajwádi	12	...	...	12	.....	.....	
	Total, Regular Plantations...	1,859	17	...	1,876	1,519 0 2	4,939 5 3	
	Cultural Operations.							
Central Division, Kánara ...	Sahasrawali	12	...	...	12	.....	.....	
	Yellápur	26	...	...	26	.....	103 15 3	
	Harwáda	1	...	...	1	6 0 0	9 13 6	
Southern Division, Kánara.	Banawasi	27	...	...	27	.....	.....	
	Anegundi	7	...	...	7	.....	.....	
	Kalkatti	2	...	...	2	.....	.....	
	Alalli...			Not	known.			
Belgaum ...	17 villages in Khánápur ...	90	...	...	90	.....	.....	
	3 do. in Belgaum ...	22	...	...	22	.....	.....	
	Kalasgade	13	...	...	13	0 10 6	25 11 0	Watering coffee plantation.
	Deshnur	150	...	...	150	.....	63 0 0	Watering, &c.
Dhárwár ...	Holtikota	34	...	...	34	.....	2 13 0	
	Salkinkop	152	...	...	152	5 0 0	4 8 0	
	Gongdikop	28	...	...	28	.....	.....	
	Saptápur	35	...	...	35	10 0 0	3 0 0	
	Kelgeri	21	...	...	21	50 0 0	5 2 6	
	Kalghatgi	399	...	...	399	.....	23 5 0	
	Ichanhalli	86	...	...	86	.....	24 1 0	
	Devikop	25	4	...	29	.....	34 5 6	
Bijápur ...	Mamdápur	170	20	...	190	.....	2,431 4 4	In these charges is included the cost of burning fire-paths round the plantations, viz., Rs. 88-8-0.
	Kaládgi	195	...	...	195	.....	712 4 6	
	Jacknur	...	9	...	9	.....	143 4 0	
Kolába ...	Alibág	5	...	...	5	.....	17 13 0	
	Sáttád	81	...	...	81	.....	31 4 0	
Ratnágiri ...	Dápoli	290	70	246	114	.....	28 0 6	
	Khed...	70	...	23	47	.....	.....	
	Chiplún	65	34	28	71	.....	56 7 6	
	Sangameshvar	170	40	112	98	.....	.....	
	Málvan	218	12	201	29	.....	27 13 0	
	Total, Cultural Operations...	2,394	189	610	1,973	71 10 6	3,747 13 7	
	Grand Total ...	4,253	206	610	3,849	1,590 10 8	8,689 2 10	

Conservator's Office, S. C.,
dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 53.

FOREST DEPARTMENT, SOUTHERN CIRCLE.

Trees felled by Government Agency during the year 1886-87 (selection fellings).

Division.	Trees felled.		Remarks.
	Description.	Number.	
Northern Division, Kánara.	Teakwood	6,597	
	Blackwood	79	
	Junglewood	829	
	Casuarina	7,909	
	Total ...	15,414	
Central Division, Kánara..	Teakwood	5,448	
	Blackwood	2	
	Junglewood	16	
	Total ...	5,466	
Southern Division, Kánara.	Sandalwood	248	
Dhárwár	Teak	17,523	
	Junglewood	1,872	
	Sandalwood	391	
	Total ...	19,786	
	Grand Total ...	40,914	

ABSTRACT OF THE CIRCLE.

	Teak	29,568
	Blackwood	81
	Junglewood	2,717
	Sandalwood	639
	Casuarina	7,909
	Total ...	40,914

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

Dated Belgaum, the 18th October 1887.

FORM No. 54.

Forest Department, Bombay, Southern Circle.

Outturn of Timber and Firewood during the year 1886-87.

Division.	Description of Materials.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government Agency.	Purchasers.	Free Grants.	Right-holders.
Northern Division, Kánara.	Teakwood	2,04,312	...	...	2,04,312	2,04,312	...	...	...
	Do. round pieces ...	16,656	...	...	16,656	16,656	...	...	...
	Do. poles	2,300	...	937	3,237	3,237	...	...	...
	Blackwood	2,249	...	...	2,219	2,249	...	...	...
	Do. poles	...	396	...	396	396	...	...	...
	Junglewood	1,69,048	...	...	1,69,048	27,450	1,10,974	30,624	...
	Do. poles	2,925	...	...	2,925	...	2,925	...	...
	Firewood	1,58,112	20,65,720	...	22,23,832	50,496	21,73,048	288	...
	Charcoal	6,720	8,736	...	15,456	8,736	6,720	...	...
	Total ...	5,62,322	20,74,852	937	26,38,111	3,18,532	22,93,667	30,912	...
Central Division, Kánara.	Teakwood ... Khandis.	4,811	1,841	...	6,652	6,551	101	...	...
	Teak round pieces for sleepers	17,161	5,910	...	23,071	23,071	...	...	...
	Do. pieces	...	...	1	1	1	...	...	...
	Do. poles	...	11,222	...	11,222	11,222	...	...	...
	Blackwood ... Khandis.	1	222	...	223	3	220	...	...
	Junglewood ... Do. ...	37	5,276	...	5,313	191	3,637	1,485	...
	Do. poles	...	...	1,628	1,628	8	1,015	605	...
	Do. planks	...	...	9	9	...	9	...	...
	Jirálátwood pieces	...	...	643	643	643	..	...	...
	Sandalwood ... Khandis.	...	13	...	13	13	...	...	...
	Balni trees	...	7	...	7	...	7	...	...
	Firewood stacks	..	...	1,787	1,787	1,785	2	...	...
	Do. ... Tons	...	7,299	...	7,299	...	7,299	...	...
	Do. Cart-loads	...	...	1,220	1,220	14	1,172	34	...
	Do. Head-loads	...	...	81,800	81,800	45	81,230	525	..
	Karvi ... ... Do.	...	...	6	6	...	6	...	...
	Charcoal ... ... Mds.	...	806	...	806	...	806	...	...
	Total ...	22,010	32,596	87,094	1,41,700	43,547	95,504	2,649	...
Southern Division, Kánara.						Kh. m. s.			
	Sandalwood	...	...	...	...	6 12 2	...	...	...
	Teakwood	...	...	...	...	934	41	...	...
	Do. poles	...	...	...	...	483	...	...	...
	Junglewood	...	...	...	...	619	7,928	2,366	...
	Blackwood	...	...	...	...	...	2	...	...
	Do. poles	...	...	...	...	...	25	297	...
	Firewood... ... Cart-loads.	...	...	...	...	...	3,744	...	...
	Do. ... ...Head-loads.	...	...	...	...	...	56,575	...	...
	Charcoal ... ...Mds.	...	...	...	...	...	284	...	...
	Total ...	...	...	...	...	2,042 12 2	68,599	2,663	...
Belgaum.	Teak trees for sleepers ...	1,969	...	...	1,969	2,708	...	...	...
	Teakwood logs	...	...	2	2	...	...	...	...
	Do. poles	...	1	1,292	1,293	...	1,293	...	...
	Blackwood pieces	...	...	10	10	...	10	...	...
	Junglewood poles	...	16,272	5,734	22,006	...	11,552	4,908	...
	Do. pieces	...	...	103	103	...	103	...	...
	Firewood stacks	...	12,307	...	12,307	...	11,189	...	...
	Do. ..Bullock-loads.	...	...	429	429	...	429	...	...
	Do. ... Cubic feet.	...	14,64,713½	...	14,64,713½	11,45,764½	...	...	...
	Do. ... Cart-loads.	...	...	2,950	2,950	...	2,950	...	...
	Do. ... Head-loads.	...	19,275	97,022	1,16,297	...	89,719	...	...
	Cart-loads of trunks	...	54	...	54	...	54	...	...
	1,040 maunds of charcoal equivalent to cart-loads ...	...	...	260	260	...	260	...	...
	Thorns ... Head-loads.	...	...	171	171	...	171	...	...
	Do. ... Cart-loads.	...	...	78	78	...	78	...	...
	Karvi ... ... Do. ...	...	...	267	267	...	267	...	...
	Toddy trees	...	...	88	88	...	88	...	...
	Sandalwood trees	...	...	2	2	...	2	...	...
	Do. pieces	...	...	2	2	...	2	...	...
	Bábulwood	...	...	132	132	...	132	...	...
	Nim trees	...	...	3	3	...	3	...	...
	Total ...	1,969	15,12,622½	1,08,545	16,23,136½	11,48,472½	1,18,302	4,908	...

FORM No. 54—*continued.*

Division.	Description of Materials.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government Agency.	Purchasers.	Free Grants.	Right-holders.
Dhárwár.	Teak rafters	14,847	185	...	15,032	14,847	368	38	...
	Mutti do.	1,710	...	...	1,710	1,710	9	112	...
	Jiráítwood	6,858	1,053	24,483	32,394	32,394	1,122	...	...
	9′ sleeper pieces	4,184	...	...	4,184	4,184	...	...	..
	9′ sleepers obtained	5,146	...	...	5,146	5,146	...	...	...
	Slabs	7,031	...	...	7,031	7,031	..	...	...
	Sandalwood billets	1,678	...	...	1,678	1,678	...	...	...
	Do. roots	80	...	...	80	80	...	...	...
	Firewood stacks	2,252	242	7,882	10,376	10,376	...	...	...
	Do. ... Cart-loads.	...	327	...	327	...	327	...	...
	Bámbus	...	...	3,61,919	3,61,919	...	3,61,919	...	..
	Do. pieces...	...	...	10,100	10,100	...	10,100	...	...
	Dry bámbus	...	..	1,400	1,400	...	1,400	...	...
	Total ...	43,786	1,807	4,05,784	4,51,377	77,446	3,75,245	150	...
Bijápur.	Sandalwood pieces	...	...	20	20	...	...	...	...
	Bábulwood ... Cart-loads.	...	...	598	598	...	...	...	...
	Do. trees	...	...	21	21	...	...	...	...
	Jambulwood ... Cart-loads.	...	...	100	100	...	...	...	...
	Mango tree	..	...	1	1	...	...	...	...
	Maswal rafters... Head-loads.	...	...	6,448	6,448	...	...	...	...
	Do. implements of husbandry	...	...	13	13	...	...	...	...
	Total ...	...	...	7,201	7,201	...	...	...	...
Ratnágiri.	Teak poles and pieces ...	...	...	26,559	26,559	26,559	...	...	...
	Casuarina poles	...	...	25	25	25	...	...	...
	Firewood... ... Khandis.	...	...	1,076½	1,076½	1,076½	...	...	...
	Total ...	...	...	27,660½	27,660½	27,660½	...	...	...
Kolába.	Teak trees ... ... No.	...	1,25,559	...	1,25,559	9,500	1,25,559	...	...
	Firewood ... Khandis.	...	55,000	...	55,000	...	55,000	...	...
	Total ...	...	1,80,559	...	1,80,559	9,500	1,80,559	...	...
	Grand Total ...	6,30,087	38,02,436½	6,37,221½	50,69,745	4,76,436	42,77,640	41,282	...

Conservator's Office, S C.,
dated Belgaum, 18th October 18 87.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

FORM No. 55.

Forest Department, Bombay, Southern Circle.

Outturn of Minor Produce for 1886-87.

Division.	Description of Produce.	Produce removed or utilized: By Government Agency. Quantity.	By Government Agency. Value.	By Purchasers. Quantity.	By Purchasers. Value.	By Free Grants. Quantity.	By Free Grants. Value.	By Right-holders. Quantity.	By Right-holders. Value.	Total. Quantity.	Total. Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs.		Rs. a. p.
Northern Division of Kánara.	Hirda	2,386	27,286 0 0	....	....	..	....	..	..	2,386	27,286 0 0
	Bámbus	..	....	23,87,241	25,986 3 10	33,346	142 9 4	..	..	24,20,587	26,128 13 2
	Grazing fees	..	....	....	5,949 7 6	..	....	..	..	....	5,949 7 6
	Honey	..	....	....	1,012 0 0	..	....	..	..	....	1,012 0 0
	Shigékái	..	....	....	303 0 0	..	....	..	..	....	303 0 0
	Cinnamon	..	....	....	50 0 0	..	....	..	..	....	50 0 0
	Pepper	..	....	....	16 0 0	..	....	..	..	....	16 0 0
	Tapping fees on bainl trees	..	....	987 trees.	61 11 0	..	....	..	..	987 trees.	61 11 0
	Canes Head-loads	..	....	52	13 0 0	..	....	..	..	52	13 0 0
	Creeper for baskets	..	....	1,643	17 1 0	..	....	..	..	1,643	17 1 0
	Fees on Medar bámbus	..	....	....	26 4 0	..	....	..	..	....	26 4 0
	Goting	..	....	....	16 0 0	..	....	..	..	....	16 0 0
	Wild turmeric	..	....	....	31 0 0	..	....	..	..	....	31 0 0
	Nux vomica	..	....	....	19 0 0	..	....	..	..	....	19 0 0
	Fruit farm	..	....	....	10 12 3	..	....	..	..	....	10 12 3
	Bámbu stakes	..	....	30	1 14 0	..	....	..	..	30	1 14 0
	Total	2,386	27,286 0 0	23,89,953	33,513 5 7	33,346	142 9 4	..	..	24,25,685	60,941 14 11
Central Division of Kánara.	Hirda Khandis	327	3,639 0 0	....	....	..	....	..	..	327	3,639 0 0
	Shigékái Khandis	9	124 0 0	....	....	..	....	..	..	9	124 0 0
	Grass pullies	43,712	150 0 0	....	....	..	....	..	..	43,712	150 0 0
	Bámbus	2,557	20 4 0	....	....	..	....	..	..	2,557	20 4 0
	Do. Dowgi	..	....	1,08,074	2,330 0 0	1,550	15 0 0	..	..	1,09,624	2,345 0 0
	Do. Medar	..	....	2,17,590	3,439 0 0	1,450	7 0 0	..	..	2,19,040	3,446 0 0
	Shibs	..	....	4,54,900	3,967 0 0	8,650	21 4 0	..	..	4,63,550	3,998 4 0
	Grazing fees	..	....	....	6,408 0 0	..	....	..	..	....	6,408 0 0
	Baini trees (tapping fees on)	..	....	41	3 0 0	..	....	..	..	41	3 0 0
	Honey farm	..	....	....	1,371 0 0	..	....	..	..	....	1,371 0 0
	Earth Cart-loads	..	....	61	4 0 0	..	....	..	..	61	4 0 0
	Bámbus on contract	..	....	....	76 0 0	..	....	..	..	....	76 0 0
	Do. Cart-loads	..	....	208	52 0 0	..	....	..	..	208	52 0 0
	Canes Head-loads	..	....	187	47 0 0	..	....	..	..	187	47 0 0
	Grass	..	....	....	7 0 0	..	....	..	..	....	7 0 0
	Nux vomica	..	....	....	6 0 0	..	....	..	..	....	6 0 0
	Catechu	..	....	....	4,000 0 0	..	....	..	..	....	4,000 0 0
	Ramfal, rampatri and cinnamon	..	....	....	1,195 0 0	..	....	..	..	....	1,195 0 0
	Pepper	..	....	....	355 0 0	..	....	..	..	....	355 0 0
	Total	46,605	3,933 4 0	7,81,061	23,260 0 0	11,650	43 4 0	..	..	8,39,316	27,236 8 0
Southern Division of Kánara.	Hirda Khandis	2,228	28,966 11 11	....	....	..	....	..	..	2,228	28,966 11 11
	Shigékái Maunds.	19	241 12 10	....	....	..	....	..	..	19	241 12 10
	Bámbus	..	....	64,375	679 14 9	2,250	22 8 0	..	..	66,625	702 6 0
	Do. (thin)	..	....	96,225	289 8 0	14,400	36 0 0	..	..	1,10,625	325 8 0
	Grazing fees	..	....	....	8,379 0 7	..	....	..	..	....	8,379 0 7
	Honey	..	....	....	1,068 7 8	..	....	..	..	....	1,068 7 8
	Palm trees	..	....	1,016	253 15 0	..	....	..	..	1,016	253 15 0
	Thorns Cart-loads	..	....	16	2 0 0	..	....	..	..	16	2 0 0
	Cane Loads	..	....	431	107 12 0	..	....	..	..	431	107 12 0
	Confiscated timber, &c.	..	....	Kdies. 160	615 7 4	..	....	..	..	160	615 7 4
	Do. firewood Carts	..	....	11	2 15 0	..	....	..	..	11	2 15 0
	Do. do. Head-loads	..	....	106	6 7 6	..	....	..	..	106	6 7 6
	Do. bámbus	..	....	330	2 13 7	..	....	..	..	330	2 13 7
	Cinnamon farm	..	....	....	75 0 0	..	....	..	..	....	75 0 0
	Stones, &c., quarry fees	..	....	C.-loads 484	38 3 6	..	....	..	..	484	38 3 6
	Shigékái bark	..	....	....	135 10 6	..	....	..	..	....	135 10 6
	Wild pepper	..	....	....	44 0 0	..	....	..	..	....	44 0 0
	Aleksistoo	..	....	....	15 9 6	..	....	..	..	....	15 9 6
	Confiscated cane	..	....	....	0 8 0	..	....	..	..	....	0 8 0
	Do. shigékái bark, hadchari and heart of palm Loads	..	....	7½	0 9 6	..	....	..	..	7½	0 9 6
	Confiscated firewood and poles	..	....	....	27 12 0	..	....	..	..	....	27 12 0
	Total	2,247	29,208 8 9	1,63,161½	11,745 9 8	16,650	58 8 0	..	..	1,82,058½	41,012 10 5
Dhárwár.	Hirda Baskets	147	208 8 0	....	12 0 0	..	....	..	..	147	220 8 0
	Grass pullies	1,325	2 13 0	13,750	13 2 0	..	....	..	..	15,075	15 15 0
	Thorns Loads	..	....	1,330	176 10 6	..	....	..	..	1,330	176 10 6
	Toddy tree branches Loads	..	....	466	35 3 6	..	....	..	..	466	35 3 6
	Tapping fees on toddy trees	..	....	trees 1,002	62 10 0	..	....	..	..	1,002	62 10 0
	Royalty on tárvád bark	..	....	....	400 0 0	..	....	..	..	....	400 0 0
	Do. bábul pods	..	....	....	125 0 0	..	....	..	..	....	125 0 0
	Do. vanadurgi fruits	..	....	....	24 4 0	..	....	..	..	....	24 4 0
	Do. honey	..	....	....	162 8 9	..	....	..	..	....	162 8 9
	Mangoes	..	....	....	16 15 6	..	....	..	..	....	16 15 6
	Tamarinds	..	....	....	10 15 6	..	....	..	..	....	10 15 6
	Karanj	..	....	....	25 0 0	..	....	..	..	....	25 0 0
	Jujubs	..	....	....	2 0 0	..	....	..	..	....	2 0 0
	Marking nuts	..	....	....	29 3 0	..	....	..	..	....	29 3 0
	Creepers for baskets	..	....	....	9 0 0	..	....	..	..	....	9 0 0
	Gum of several trees	..	....	....	19 4 0	..	....	..	..	....	19 4 0
	Stones Loads	..	....	4,111	266 3 0	..	....	..	..	4,111	266 3 0
	Earth and kunkur	..	....	327	19 11 0	..	....	..	..	327	19 11 0
	Manure	..	....	....	3 4 0	..	....	..	..	....	3 4 0
	Total	1,472	211 5 0	20,986	1,412 14 9	..	....	..	..	22,458	1,624 3 9
Belgaum.	Hirda Khandis	6,221½	40,199 0 0	....	....	..	....	..	..	6,221½	40,199 0 0
	Tapping toddy trees	..	....	91	5 11 0	..	....	..	..	91	5 11 0
	Bámbus (large)	..	....	25,048	752 2 7	310	3 2 0	..	..	25,358	755 4 7
	Medar bámbus	..	....	53,675	1,073 8 0	..	....	..	..	53,675	1,073 8 0
	Shibs	..	....	2,63,576	2,638 1 0	2,600	6 8 0	..	..	2,66,176	2,644 9 0
	Chives	..	....	63,950	319 12 0	..	....	..	..	63,950	319 12 0
	Canes	..	....	234	14 10 0	..	....	..	..	234	14 10 0
	Sand Cubic feet	..	....	32,593	20 5 11	..	....	..	..	32,593	20 5 11
	Stones Cart-loads	..	....	5,605	350 5 0	..	....	..	..	5,605	350 5 0
	Do. Cubic feet	..	....	2,87,718	1,071 0 11	..	....	..	..	2,87,718	1,071 0 11
	Do. Bullock-loads	..	....	820	12 13 0	..	....	..	..	820	12 13 0

FORM No. 55—*continued.*

Division.	Description of Produce.		PRODUCE REMOVED OR UTILIZED.									
			By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
				Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs.		Rs. a. p.
Belgaum—*continued.*	Earth	Cart-loads	..	....	105	1 10 8	..	....	..	..	105	1 10 8
	Sale of shigékái	..	..	....	....	777 0 0	..	....	..	..	....	777 0 0
	Honey	..	..	....	....	384 0 0	..	....	..	..	....	384 0 0
	Mangoes	..	..	....	....	4 4 6	..	....	..	..	....	4 4 6
	Coffee	..	..	....	....	0 13 6	..	....	..	..	....	0 13 6
	Grazing fees	..	..	....	....	16,636 4 6	..	....	..	..	....	16,636 4 6
	Sale of grass	..	..	....	....	26 1 6	..	....	..	..	....	26 1 6
	Sale of kurans	..	..	....	....	4,037 1 8	..	....	..	..	....	4,037 1 8
	Gum (kapilpith)	Maunds	..	....	35	49 0 0	..	....	..	..	35	49 0 0
	Tamarinds	Maunds	..	.. ..	10	0 12 0	..	....	..	..	10	0 12 0
	Tarvád bark	Bullock-loads	..	....	148	13 14 0	..	....	..	..	148	13 14 0
	Minor produce		..	....	....	448 6 8	..	....	..	..	..	448 6 8
	Total ..		6,221½	40,199 0 0	7,33,608	28,687 10 9	2,910	9 10 0	..	..	7,42,739½	68,896 4 0
Bijápur.	Large stones	Cart-loads	..	....	448	61 0 0	..	....	..	..	448	61 0 0
	Small do.	do.	..	....	16,597	1,037 5 0	..	....	..	..	16,597	1,037 5 0
	Do. do.	Bullock-loads	..	....	982	15 5 6	..	....	..	..	982	15 5 6
	Do. do.	Donkey-loads	..	....	12	0 2 0	..	....	..	..	12	0 2 0
	Do. do.	Head-loads	..	....	3,686	19 3 2	..	....	..	..	3,686	19 3 2
	Do. do.	Cubic feet	..	....	3,69,011	1,153 2 6	..	....	..	..	3,69,011	1,153 2 6
	Small stones		..	....	..	332 0 0	..	....	..	..	....	332 0 0
	Earth	Cart-loads	..	....	349	21 13 0	..	....	..	..	349	21 13 0
	Do.	Bullock-loads	..	....	2,713	42 6 3	..	....	..	..	2,713	42 6 3
	Do.	Donkey-loads	..	....	3,665	38 2 10	..	....	..	..	3,665	38 2 10
	Do.	Head-loads	..	....	756	3 15 0	..	....	..	..	756	3 15 0
	Grinding stones		..	.. ..	....	31 0 0	..	....	..	..	....	31 0 0
	Tumri leaves	Head-loads	..	....	522	32 10 0	..	....	..	..	522	32 10 0
	Do.	Bullock-loads	..	....	22	2 12 0	..	....	..	..	22	2 12 0
	Bundergi leaves	do.	..	....	49	6 2 0	..	....	..	..	49	6 2 0
	Do. do.	Head-loads	..	....	5,866	374 12 0	..	....	..	..	5,866	374 12 0
	Hulagali	Cart-loads	..	.. ..	1,376	397 0 0	..	....	..	..	1,376	397 0 0
	Do.	Head-loads	..	....	411	25 11 0	..	....	..	..	411	25 11 0
	Red earth	Cart-loads	..	....	178	27 15 6	..	....	..	..	178	27 15 6
	Do.	Bullock-loads	..	....	1,885	58 14 6	..	....	..	..	1,885	58 14 6
	Do.	Donkey-loads	..	....	2	0 2 0	..	....	..	..	2	0 2 0
	Do.	Head-loads	..	....	844	13 3 0	..	....	..	..	844	13 3 0
	Yellow earth	Donkey-loads	..	....	68	2 2 0	..	....	..	..	68	2 2 0
	Bábul pods		..	....	....	324 14 0	..	....	..	..	....	324 14 0
	Gum		..	....	....	56 2 0	..	....	..	..	....	56 2 0
	Honey		..	....	....	16 4 0	..	....	..	..	....	16 4 0
	Mangoes		..	....	....	13 10 0	..	....	..	..	....	13 10 0
	Tamarind		..	....	....	9 8 0	..	....	..	..	....	9 8 0
	Tarvád bark		..	....	....	35 8 6	..	....	..	..	....	35 8 6
	Shindi trees		..	....	....	25 0 0	..	....	..	..	....	25 0 0
	Total ..		..	....	4,09,442	4,177 9 9	..	....	..	..	4,09,442	4,177 9 9
Ratnágiri.	Hirda		K. m. 4 11	58 0 0	....	....	..	....	..	..	K. m. 4 11	58 0 0
Kolába.	Hirda, shigékái		..	....	....	1,250 0 0	..	....	..	..	....	1,250 0 0
	Apta and temburni leaves ..											
	Grand Total ..		..	1,00,896 1 9	....	1,04,047 1 9	..	253 15 4	..	..	....	2,05,197 2 10

Conservator's Office, S. C.,
dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 56.

Forest Department, Bombay, Southern Circle.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1886-87.

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
TIMBER.				
Balance at commencement of the year.				
Northern Division of Kánara.				
Teakwood	617	832		
Teak round pieces ...	11,422	...		
Do. sleepers	5,297	...		
Do. slabs	19,353	...		
Blackwood	202	340		
Junglewood	17	38		
			36,908	1,210
Central Division of Kánara.				
Teak logs	1,023	1,426		
Teak round pieces for sleepers.	23,316	...		
Do. pieces ... Cubic feet	60	...		
Do. sleepers	5,071	...		
Teakwood ... Cubic feet	20,890	...		
Blackwood	67	74		
Do. ... Cubic feet	24	...		
Junglewood	905	1,036		
Do. .. Cubic feet	13,202	...		
Brakes for traffic carts ...	170	...		
Sitting boards	92	...		
			64,820	2,536
Southern Division of Kánara.				
Teakwood...	168	228		
Do. poles	872	...		
Do. round pieces for sleepers	460	...		
Do. sleepers	1,127	...		
Do. rejected do. ...	226	...		
Slabs	62,296	...		
Sandalwood chips... Carts	12	...		
Blackwood	2	2		
Junglewood	889	1,235		
			66,052	1,465
Belgaum Division.				
Teak trees for sleepers ...	1,340	...		
Do. round pieces ...	3,718	...		
Do. sleepers	15,308	...		
Junglewood poles ...	618	...		
			20,984	.....
Dhárwár Division.				
Teak rafters	12,495	...		
Mutti do.	1,500	...		
Miscellaneous rafters ...	129	...		
Jiráitwood	29,935	...		
			44,059	.....
Kolába Division.				
Teak poles, 1st class ...	35	...		
Do. 2nd do. ...	114	...		
Do. 3rd do. ...	68	...		
Do. 4th do. ...	29	...		
Miscellaneous poles ...	1,621	...		
			1,867	.....
Total Balance ...	...	...	2,34,690	5,211
Received from the Forests in Depôts.				
Teak logs	11,904	23,830		
Do. trees	1,869	...		
Do. poles	17,263	...		
Do. round pieces ...	37,456	..		
Do. rafters	14,641	...		
Blackwood	133	183		
Do. poles	28	...		
Jiráitwood	24,135	...		
Junglewood	1,802	3,032		
Do. poles	16,743	...		
Mutti rafters	1,925	...		
Sandalwood	611	19-4-8		
Do. saw-dust bags...	5	...		
Teak sleepers	10,478	...		
Do. rejected sleepers ...	123	...		
Do. slabs	905	...		
			1,40,021	27,064-4-8

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
TIMBER.				
Removed by Purchasers from Depôts.				
Teakwood	7,034	13,194		
Do. poles	16,095	...		
Do. round pieces ...	2,722	...		
Do. rafters	16,032	...		
Do. ... Cubic feet	26,700	...		
Blackwood	318	479	—	—
Do. ... Cubic feet	15	...		
Do. poles	28	...		
Jiráitwood	20,309	...		
Junglewood	1,016	1,525		
Do. ... Cubic feet	152	...		
Do. poles	11,073	...		
Sandalwood pieces ...Carts	12	...		
Do. pieces	178	4-14-8		
Do. ... Khandis	...	13-0-0		
Mutti rafters	2,266	...		
Teak sleepers	1,26,264	...		
Do. rejected ...	1,788	...		
Teak slabs	75,032	...		
Do. planks	3	...		
Do. railings	24	...		
End pieces and poles ...	2,728	...		
Sitting boards	6	...		
			3,09,795	15,215-14-8
Sold locally.				
Teak logs	1	1		
Do. rafters	185	...		
Jiráitwood	1,381	..		
Junglewood	293	38		
Do. poles	399	...		
Sotás	1,766	...		
Poles, 1st class	4,874	..		
Do. 2nd do.	7,741	...		
Do. 3rd do.	10,779	...		
Do. 4th do.	7,014	...		
Miscellaneous pieces ..	8,418	...		
Beams	744	...		
Sawarina poles	25	...		
Jungle wood props... ..	75	...		
Yokes for carts	3	...		
Jiráitwood ... Cart-loads	7	...		
			43,705	39
Converted in Depôts.				
Teak trees	2,708	...		
Do. round pieces ...	59,190	...		
Do. logs	2,274	4,544		
Junglewood	8	24		
			64,180	4,568
Lost or written off as useless.				
Teak sleepers	1,910	...		
Do. slabs	2,520	...		
Blackwood logs	1	1		
			4,431	
Used by the Department.				
Slabs	25	...		
Teak logs	1	6		
Teakwood ...Cubic feet	277	...		
Junglewood... Do.	214	...		
Miscellaneous pieces Cubic feet	36	...		
Brakes for traffic carts ...	163	...		
			716	
Transferred to other Sale Depôts.				
Teak logs	120	139		
Sleepers	14	...		
Teak round pieces ...	3,803	...		
Teak rafters	14,803	...		
Teak poles	243	...		
Mutti-rafters	1,710	...		
Jiráitwood	27,798	...		
Blackwood	16	19		
Miscellaneous pieces Cubic feet	57	...		
			48,564	

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
TIMBER—*continued.*				
RECEIVED FROM THE FORESTS AND SOLD LOCALLY.				
Teak logs	1	1		
Do. rafters	185	...		
Jiráitwood	1,381	...		
Junglewood	293	38		
Do. poles ...	399	...		
Sotás	1,766	...		
Poles, 1st class	4,874	...		
Do. 2nd do.	7,741	...		
Do. 3rd do.	10,779	...		
Do. 4th do.	7,014	...		
Miscellaneous pieces ...	8,418	...		
Beams	744	...		
Casuarina poles	25	...		
Junglewood props ...	75	...		
Yokes for carts	3	...		
Jiráitwood ... Cart-loads	7	...	43,705	39
RECEIVED BY CONVERSION IN DEPÔTS				
Teakwood logs	382	888		
Do. round pieces ...	12,302	...		
Do. cubic feet	24,023	...		
Do. sleepers	1,00,920	...		
Do. slabs	1,03,669	...		
End pieces and poles ...	2,728	...		
Teak planks	3	...		
Do. railings	24	...		
Sitting boards	2	...		
Junglewood ... Cubic feet	357	...	2,44,410	888
RECEIVED BY TRANSFER FROM SALE DEPÔTS.				
Teak sleepers	14	...		
Do. wood	120	139		
Do. round pieces ...	3,803	...		
Do. poles	243	...		
Do. rafters	14,803	...		
Mutti rafters	1,710	...		
Blackwood	16	19		
Jiráitwood	27,798	...		
Miscellaneous pieces Cubic feet	57	...	48,564	158
Total Timber ...	...	...	7,11,390	33,360-4-8

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
TIMBER—*continued.*				
BALANCE AT CLOSE OF THE YEAR.				
Northern Division of Kánara.				
Teakwood	3,253	7,852		
Do. posts	5	5		
Do. round pieces ...	2,798	...		
Do. sleepers ...	961	...		
Do. slabs	19,973	...		
Junglewood	735	1,367		
Blackwood	32	62	27,757	9,286
Central Division of Kánara.				
Teak logs	901	1,086		
Do. round pieces for sleepers	16,014	...		
Do. sleepers	3,056	...		
Do. slabs	26,912	...		
Do. poles	59	...		
Do. ... Cubic feet	17,936	..		
Blackwood logs ...	51	55		
Do. ... Cubic feet	9	...		
Junglewood logs	919	1,103		
Do. ... Cubic feet	13,071	...		
Brakes for traffic carts ...	7	...		
Sitting boards	88	...		
Miscellaneous pieces Cubic feet	50	...	79,073	2,244
Southern Division of Kánara.				
Teak	315	517		
Blackwood	2	2		
Junglewood	935	1,322		
Teak poles	1,981	...		
Junglewood poles	42	...		
Teak round pieces for sleepers	321	...		
Do. sleepers	638	...		
Do. slabs	59,997	...		
Sandalwood billets ...	433	1—10		
Do. saw-dust bags ...	5	...	65,169	1,842-10-0
Belgaum Division.				
Teak trees for sleepers ...	501	...		
Do. round pieces ...	183	...		
Junglewood poles	6,158	...		
Sleepers	738	...		
Slabs	1,589	...	9,169	.....
Dhárwár Division.				
Teak rafters	11,104	...		
Mutti do.	1,159	...		
Jiráitwood	33,761	...		
Slabs	175	...		
Miscellaneous rafters ...	129	...	46,328	.....
Kolába Division.				
Beams	19	...		
Teak pieces	119	...		
Poles, 1st class	400	...		
Do. 2nd do.	495	...		
Do. 3rd do.	540	...		
Do. 4th do.	418	...		
Miscellaneous poles ...	447	...	2,438	.....
Ratnágiri Division.				
Teak sotás	726	...		
Do. poles, 1st class ...	915	...		
Do. 2nd do. ...	1,597	...		
Do. 3rd do. ..	3,136	...		
Do. 4th do. ...	2,329	...		
Casuarina poles	25	...		
Miscellaneous pieces ...	1,337	...	10,065	.....
Total Timber ...	...	...	7,11,390	33,360-4-8

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
FIREWOOD.				
Balance at commencement of the year.				
Dhárwár Division.				
Firewood stacks	3,054	...	3,054	.....
Belgaum Division.				
Firewood stacks	10,065	...		
Do. ...Cubic feet	...	77,140	10,065	77,140
Bijápur Division.				
Firewood ... Maunds	1,000	...	1,000	.....
Total Balance ...	...	...	14,119	77,140
Received from the Forest.				
Firewood stacks	19,683	...		
Do. ... Head-loads	19,275	...		
Do. ... Khandis	...	1,076½		
Do. ... Cubic feet	...	14,64,713½	38,958	14,65,790
Total Firewood ...	...	...	53,077	15,42,930
OTHER MINOR PRODUCE.				
Balance at commencement of the year.				
Central Division of Kánara.		K. m.		
Shigekái	...	7 5		
Grass ... Bundles	2,14,197	...		K. m.
			2,14,197	7 5
Northern Division of Kánara.				
Hirda ... Khándis	....	677	...	677
Southern Division of Kánara.				
Hirda .. Khandis	...	566 9		
Shigékái ... ,,	...	0 5½	...	566 14½
Belgaum Division.				
Hirda ... Khandis	...	377	...	377
Total Balance ...	...	...	2,14,197	1,627 19½
Received from the Forests.				
Hirda ... Khandis	...	9,427		
Shigékái ... ,,	...	872	...	10,299
Total Other Minor Produce	...	..	2,14,197	11,926 19½

Particulars.	Number or Quantity.	Khandis.	Total of each Head. Number or Quantity.	Total of each Head. Khandis.
FIREWOOD.				
Removed by Purchasers.				
Firewood stacks	18,307	...		
Do. ... Head-loads	19,275	...		
Do. ... Khandis	...	543		
Do. ... Cubic feet	...	11,45,764½		
Firewood stacks burnt by forest fire	113	...	37,695	11,46,307½
Balance at close of the year.				
Dhárwár Division.				
Firewood stacks	3,199	...	3,199	.....
Belgaum Division.				
Firewood stacks	11,183	...		
Do. ... Cubic feet	...	3,96,089	11,183	3,96,089
Bijápur Division.				
Firewood ... Maunds	1,000	...	1,000	.....
Ratnágiri Division.				
Firewood ... Khandis	...	533½	...	533½
Total Firewood ..	...	...	53,077	15,42,930
OTHER MINOR PRODUCE.				
Removed by Purchasers.				
		K. m.		
Hirda ... Khandis	...	9,370 15		
Shigékái ... ,,	...	840		
Grass ... Bundles	37,661	...		K. m.
			37,661	10,210 15
Balance at close of the year.				
Northern Division of Kánara.				
Hirda ... Khandis	...	540	...	540 0
Central Division of Kánara.		K. m.		
Hirda	...	0 6½		
Shigékái	...	1 16		
Grass ... Bundles	1,76,536	...	1,76,536	2 2½
Southern Division of Kánara.				
Hirda ... Khandis	...	441 2		
Shigékái ... ,,	...	39 0	..	480 2
Belgaum Division.				
Hirda ... Khandis	...	694 0	...	694 0
Total Other Minor Produce.	...	...	2,14,197	11,926 19½

* The opening balance of 20,984 now given under Belgaum under the head "Timber" ought to have been shown under the same division as closing balance in the statement for 1885-86, but it could not be done so, owing to a mistake in the Divisional Officer's statement for 1885-86.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

Dated Belgaum, the 18th October 1887.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale-Depôts for the year 1886-87.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs	
Northern Division of Kánara.			TIMBER.						
Teakwood	617	832	10,755	3,253	7,852	1,17,780	1,07,025	...	
Blackwood	202	340	3,366	32	62	682	...	2,684	
Junglewood	17	38	385	653	1,341	13,410	13,025	.....	
Teak round pieces... ...	11,422	...	35,000	1,049	...	3,147	...	31,853	
Teak sleepers	5,297	...	11,000	961	...	1,922	...	9,078	
Teak slabs	19,353	...	2,000	19,973	...	2,000	...	.....	
Total ...	...	...	62,506	...	...	1,38,941	1,20,050	43,615	
Central Division of Kánara.									
Logs	1,995	2,536	24,204	1,871	2,244	22,755	...	1,449	
Teak round pieces for sleepers	23,316	...	1,16,580	16,014	...	80,070	...	36,510	
Teak sleepers	5,071	...	9,411	3,056	...	7,294	...	2,117	
Teak slabs	...	...	...	26,912	...	6,791	6,791	.....	
Teak poles	...	...	...	59	...	177	177	.....	
Brakes for traffic carts ...	170	...	5	7	...	0-3-0	...	4-13	
Sitting boards	92	...	12	88	...	12-0-0	...	.....	
Miscellaneous scantlings Cubic feet	...	34,176	68,350	...	31,066	62,132	...	6,218	
Total ...	...	...	2,18,562	...	...	1,79,231-3-0	6,968	46,298-13-0	
Southern Division of Kánara.									
Teak	168	228	3,954	315	517	9,047	5,093	.....	
Blackwood	2	2	19	2	2	19	...	.....	
Sandalwood	12 carts chips.	...	25	433 billets and 5 bags.	1-10-0	210	185	.....	
Junglewood	889	1,235	12,350	935	1,322	14,531	2,181	.....	
Teak poles	872	...	2,046	1,981	...	3,160	1,114	.....	
Junglewood poles	...	...	...	42	...	38	38	.....	
Round pieces for sleepers .	460	...	...	821	...	.....	...	.....	Value not known.
Sleepers	1,127	...	2,254	638	...	1,276	...	978	
Rejected sleepers	226	...	227	...	...	.....	...	227	
Slabs	62,296	...	6,221	59,997	...	5,999	...	222	
Total ...	...	...	27,096	...	...	34,280	8,611	1,427	
Belgaum Division.									
Teak trees for sleepers ...	1,340	...	16,000	501	...	2,004	...	13,996	
Do. round pieces ...	3,718	...	6,300	183	...	366	...	5,934	
Do. sleepers	15,308	...	35,000	738	...	1,476	...	33,524	
Poles	618	...	150	...	...	.....	...	150	
Junglewood poles... ...	...	...	...	6,158	...	400	400	.....	
Slabs	...	...	...	1,589	...	180	180	.....	
Total ...	...	...	57,450	...	...	4,426	580	53,604	
Dhárwár Division.									
Teak rafters	12,495	...	21,150	11,104	...	18,550	...	2,600	
Mutti do.	1,500			1,159					
Miscellaneous rafters ...	129			129					
Jiráftwood	29,935	...	7,483	33,761	...	8,440	957	.....	
Slabs	...	...	...	175	...	25	25	.....	
Total ...	...	...	28,633		...	27,015	982	2,600	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
Kolába Division.			TIMBER—*continued.*						
Teak poles, 1st class ...	35								
Do. 2nd do. ...	114								
Do. 3rd do. ...	68	...	705	2,438	...	1,200	495	.....	
Do. 4th do. ...	29								
Miscellaneous poles ...	1,621								
Ratnágiri Division.									
Teak poles and pieces ...	...	...	...	10,040	...	1,525	1,525	.....	
Firewood	...	...	...	...	533½				
Casuarina poles	...	...	...	25	...	2	2	.....	
Total ...	...	...	...	...	...	1,527	1,527	.....	
Total Timber ...	...	...	3,94,952	...	...	3,86,620-3-0	1,39,213	1,47,544 13-0	
Central Division of Kánara.			FIREWOOD.						
Firewood stacks	...	...	...	455	...	341	341	.....	
Belgaum Division.									
Firewood stacks	10,065	...	6,000	11,183	...	11,183	5,183	.....	
Do. Cubic feet	...	77,140	4,600	...	3,96,089	23,760	19,160	.....	
Total ...	...	...	10,600	...	...	34,943	24,343	.....	
Dhárwár Division.									
Firewood stacks	3,054	...	3,054	3,199	...	3,199	145	.....	
Bijápur Division.									
Firewood ... Maunds	1,000	...	250	1,000	...	250	...	.....	
Total Firewood ...	...	...	13,904	...	...	38,733	24,829	.....	
Northern Division of Kánara.			OTHER MINOR PRODUCE.						
Hirda	...	677	8,683	...	540	5,400	...	3,283	
Central Division of Kánara.									
Hirda	...	...	...	...	06½	3	3	.....	
Shigékái	...	7-5	115	...	1-16	20	...	95	
Grass ... ... Bundles	2,14,197	...	736	1,76,536	...	607	...	129	
Total ...	...	...	851	...	...	630	3	224	
Southern Division of Kánara.									
Hirda	...	566-9	8,352	...	441-2-0	4,317	...	4,035	
Shigékái	...	5½	3	...	39-0-0	471	468	.....	
Total ...	...	...	8,355	...	...	4,788	468	4,035	
Belgaum Division.									
Hirda	...	377	4,643	...	694	4,443	...	200	
Total Minor Produce ...	...	...	22,532	...	...	15,261	471	7,742	
Grand Total ...	...	...	4,31,388	...	...	4,40,614-3-0	1,64,513	1,55,286-13-0	

Net difference in favour of the year—Rs. 9,226-3-0.

Conservator's Office, S. C.,
dated Belgaum, the 18th October 1887.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

B 691—10 S C

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1886-87.

Budget Heads.	Direction.	Belgaum Division.	Bijápur Division.	Dhárwár Division.	Northern Division, Kánara.	Central Division, Kánara.	Southern Division, Kánara.	Kolába Division.	Ratnágiri Division.	Total
REVENUE.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other Produce removed from the Forests by Government Agency.										
a. Timber		91,233 3 3	....	81,880 0 6	3,27,253 11 10	2,59,574 6 3	44,162 14 6	8,784 3 4	4,559 12 0	8,17,448 3 8
b. Firewood and charcoal		89,486 8 6	....	7,317 14 0	3,046 5 11	909 10 0	....	459 7 3	51 0 0	1,01,360 13 8
c. Bámbus		6 12 0	2 9 0	....	144 7 9	4 8 0	....	....	....	158 4 0
d. Sandalwood		2 3 0	180 1 0	1,862 7 0	....	1,315 2 3	474 13 10	....	....	3,834 11 1
e. Grass and other minor produce		34,198 12 1	....	211 5 0	27,286 10 0	1,565 14 5	31,367 13 3	4 4 9	58 0 0	94,692 11 6
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers.										
a. Timber		7,399 7 2	1,419 4 6	306 9 6	23,819 12 3	11,555 0 2	21,744 11 4	1,07,270 10 6	94 14 5	1,73,610 5 10
b. Firewood and charcoal		5,607 0 0	11,471 6 3	541 2 8	26,300 13 7	13,114 4 9	2,152 15 0	33,715 2 4	27 4 1	92,830 0 8
c. Bámbus		4,793 3 7	1 3 2	4,721 10 6	26,020 5 10	9,886 2 2	970 14 0	....	..	46,393 7 3
d. Grazing and fodder grass		16,856 7 1	4,654 3 0	15,428 7 10	5,949 7 6	6,408 3 9	8,379 0 7	1,362 12 3	284 9 7	59,823 3 7
e. Other minor produce		3,123 10 6	4,601 13 9	1,397 2 9	1,559 9 1	7,192 9 0	1,740 10 2	1,474 7 1	21 5 9	21,111 4 1
III.—Confiscated, Drift and Waif Wood		42 7 6	29 1 9	30 9 1	5,060 1 0	93 11 4	636 2 1	1,622 10 3	78 15 10	7,693 10 10
IV.—Revenue from Forests not managed by Government.										
a. Duty on foreign timber and other forest produce		....	....	....	....	....	....	....	39 9 8	9 8
b. Revenue from shared and private forests		....	....	..	....	..	....	10 15 10	96 14 2	107 14 0
V.—Miscellaneous.										
a. Fines and forfeitures		54 11 6	308 3 3	2 13 1	85 0 1	1,067 8 9	40 14 0	3,145 1 9	74 7 1	4,779 6 6
b. Refunds		4,011 11 9	5 0 0	....	8 6 7	308 10 8	118 2 3	179 10 10	....	4,631 10 1
c. Other sources		1,711 6 6	44 8 10	555 2 2	1,067 9 1	1,445 8 8	393 9 8	586 0 9	13 11 10	5,818 3 5
Total Revenue		2,58,427 8 4	22,717 6 6	1,14,255 4 1	4,47,602 3 9	3,14,531 4 2	1,12,182 8 8	1,58,616 11 11	5,460 8 5	14,33,793 7 10
EXPENDITURE.										
A.—CONSERVANCY AND WORKS.										
I.—Timber and other Produce removed from the Forests by Government Agency.										
a. Timber		5,608 5 9	....	25,260 1 5	1,38,604 2 8	1,01,906 8 11	12,438 3 9	1,490 10 1	2,059 4 9	2,87,367 5 4
b. Firewood and charcoal		40,023 3 10	152 8 0	2,214 2 8	2,979 11 3	138 2 0	....	47 9 10	....	45,556 5 2
c. Bámbus		....	....	....	51 11 8	3 6 5	....	....	....	55 2 2
d. Sandalwood		28 7 6	....	208 13 2	....	205 0 10	162 5 3	....	....	664 10 9
e. Grass and other minor produce		23,950 3 7	10 9 0	3 10 0	15,485 10 10	3,541 4 0	13,853 7 10	....	44 9 9	56,889 7 0
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers		1,240 15 6	64 0 0	1,637 4 3	287 3 9	122 11 6	506 12 0	1,218 1 8	....	5,077 0 8
III.—Confiscated, Drift and Waif Wood		10 13 3	....	0 8 0	27 3 5	24 11 5	22 9 5	138 11 7	....	224 9 1
IV.—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce		....	....	....	....	....	....	....	....	....
b. Revenue from shared and private forests		....	....	..	....	....	....	....	....	....
V.—Rent of Leased Forests and Payments to Shareholders in Forests managed by Government		..	....	..	..	..	..	16,419 4 9	....	16,419 4 9
VI.—Live Stock, Stores, Tools and Plant—										
a. Purchase of cattle		....	....	....	....	....	....	....	....	....
b. Feed and keep of cattle		....	....	....	172 6 9	945 11 11	....	47 8 0	....	1,165 10 8
c. Stores, tools and plant		23 8 0	2 10 6	23 4 0	8 2 0	211 1 2	2 1 0	136 4 0	2 5 0	408 14 8
VII.—Communications and Buildings—										
a. Roads and bridges		229 2 0	..	..	249 7 3	465 5 5	321 4 7	....	29 4 9	1,304 8 0
b. Buildings		555 14 11	..	832 8 9	849 2 0	1,378 9 10	900 0 0	54 12 9	....	4,571 0 3
c. Other works		77 11 3	..	59 13 5	22 8 0	283 1 6	137 9 0	3 0 0	3 2 9	586 13 11
VIII.—Demarcation, Improvement and Extension of Forests.										
a. Demarcation		214 13 4	1,724 13 9	..	....	4,524 0 9	354 0 6	7,288 4 1	2,113 2 7	16,199 3 0
b. Compensation for land and rights		....	....	..	..	....	....	....	....	....
c. Surveys and working plans		931 8 0	....	14 0 0	....	....	....	....	....	945 8 0
d. Plantations		88 11 0	1,146 1 0	38 1 6	762 4 3	114 0 9	3,104 13 7	134 13 0	112 5 0	5,501 2 1
e. Protection from fire		105 9 0	153 6 6	224 3 6	385 12 6	45 12 0	....	5 9 0	....	870 4 6
f. Other works		..	.. ..	.. ..	.. ..	.. ..	....	1 8 0	..	1 8 0
IX.—Miscellaneous.										
a. Refunds		..	.. ..	....	.. ..	..	..	.. ..	..	..
b. Law charges		8 0 0	.. ..	....	.. ..	....	47 7 0	....	..	55 7 0
c. Other charges		..	16 8 0	55 8 6	..	0 10 0	56 13 7	452 7 2	....	581 15 3
Total, A.—Conservancy and Works.		73,196 9 11	3,270 8 9	30,631 14 9	1,59,835 6 5	1,13,910 2 5	31,907 7 6	27,418 7 11	4,364 2 7	4,44,534 12 3

FORM No. 58—*continued.*

Budget Heads.	Direction	Belgaum Division.	Bijápur Division.	Dhárwár Division.	Northern Division, Kánara.	Central Division, Kánara.	Southern Division, Kánara.	Kolába Division.	Ratnágiri Division.	Total.
B.—ESTABLISHMENT.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Salaries—										
a. Conservators	14,351 9 9	.....	.....	.....	.....	.....	.....	.....	.....	14,351 9 9
b. Superior Officers	.....	14,830 0 0	7,950 0 0	6,956 1 1	6,616 12 4	3,481 1 6	7,980 0 0	4,642 0 0	4,100 0 0	56,555 14 11
c. Subordinate Forest and Depôt Establishments	.....	18,377 8 6	7,134 9 1	12,362 9 6	15,748 1 9	12,030 5 11	11,085 13 6	22,161 1 8	5,047 14 11	1,03,948 0 10
d. Office Establishments	6,073 5 1	2,664 4 2	984 15 6	1,757 0 3	2,727 2 9	3,187 0 0	2,741 12 7	2,266 13 2	1,044 0	23,446 14 6
e. Deputation and Special Allowances	398 5 0	.....	.....	.....	.....	423 10 0	.....	.....	.....	521 15 0
II.—Travelling Allowances—										
a. Conservators	3,518 11 8	.....	.....	.....	.....	.....	.....	.....	.....	3,518 11 8
b. Superior Officers	.....	3,111 14 9	1,671 0 0	1,512 9 3	3,008 9 2	1,425 1 10	2,520 0 0	1,949 2 7	1,117 11 10	16,316 1 5
c. Subordinate Forest and Depôt Establishments	.....	685 1 8	224 4 5	1,100 10 3	1,666 4 3	997 4 9	688 14 5	968 0 2	454 1 4	6,784 9 8
d. Office Establishments	2,865 13 0	774 8 2	409 4 9	540 14 6	738 14 10	778 13 10	880 0 8	681 0 0	436 12 0	8,106 1 9
III.—Contingencies—										
a. Stationery	0 9 0	271 5 7	91 11 1	173 8 3	220 0 10	292 4 9	315 2 1	469 12 1	103 15 6	1,938 5 2
b. Carriage of tents and records	662 14 2	194 9 6	130 2 10	239 3 9	437 8 8	370 15 6	240 6 2	157 11 6	144 11 6	2,618 3 7
c. Rents, rates and taxes	.....	379 9 8	270 0 0	236 0 0	20 0 0	240 0 0	60 0 0	71 2 6	286 4 7	1,563 0 9
d. Pay of Police Guards	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e. Official postage	307 0 0	294 2 0	120 5 6	292 1 0	245 0 0	452 12 0	363 0 0	353 6 6	159 11 0	2,587 6 0
f. Sundries	671 10 7	1,463 1 1	238 10 2	1,158 6 11	1,209 14 9	1,229 14 3	631 15 1	549 6 6	309 3 9	7,522 2 1
Total B.—Establishments	28,849 14 3	43,046 1 1	19,224 15 4	26,319 9 9	2,688 5 4	24,909 4 4	27,507 0 6	34,269 7 8	13,264 6 5	2,50,079 0 8
Grand Total of Expenditure	28,849 14 3	1,16,242 11 0	22,495 8 1	56,951 8 6	1,92,523 11 9	1,38,819 6 9	59,414 8 0	61,687 15 7	17,628 9 0	6,94,613 12 11

No. $\frac{\text{F.}}{12042}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Code.

Bombay, dated 9th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account Current for the year 1886-87.

Dr. *Cr.*

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	.....	9 3 9	By 1 Refunds and Drawbacks—		
„ VIII. Assessed Taxes—Income-tax—			Refunds Divided Heads—		
Deductions by Government from Salaries and Pensions.	.....	2,156 4 7	Forest	.....	712 10 7
„ IX. Forest	.....	14,33,793 7 10	„ 3 Land Revenue—		
„ XII. Interest—			Survey and Settlement Parties—Professional Survey—Travelling allowances to officers	.....	947 9 3
Interest on arrears of Revenue.	.....	146 3 11	„ 11 Forest	.....	6,94,613 12 11
„ XXIII. Stationery and Printing—			„ 14 Interest—		
Other Press receipts—			Interest on other obligations—Refunds.	.....	7 9 7
Government Central Press...	.....	6 7 0	„ 19 Law and Justice—		
„ Revenue Deposits—Forests	.....	22,376 14 10	Jails—District Jails—Contingencies...	.....	96 8 0
„ Advances Recoverable—			„ 32 Miscellaneous—		
Forest Advances	4,16,315 12 2	.....	Travelling allowances to Covenanted and Uncovenanted Officers attending examinations	.....	255 7 7
Objection Book Advances... ...	108 8 0	.....			
Tentage Advances to Government officers	480 0 0	.....	„ Revenue Deposits—		
		4,16,904 4 2	Forest	.....	21,510 8 10
„ Cheques and Bills—					
Departmental Cheques	.....		„ Advances Recoverable—		
Forest Cheques drawn	.....		Forest Advances	4,09,535 14 5	
		7,13,923 13 5	Objection Book Advances ...	261 2 0	
					4,09,797 0 5
„ Forest Remittances—			„ Cheques and Bills—		
Remittances to Treasuries... ...	177 12 1		Departmental Cheques—		
Inter-Divisional Transfers ...	69,950 13 6		Forest Cheques (cancelled) ...	.....	10,299 4 7
Inter-Departmental Transfers ...	133 0 10		„ Forest Remittances—		
		70,261 10 5	Remittances to Treasuries ...	9,21,473 6 10	
„ Cash Recoveries	.....	482 10 8	Inter-Divisional Transfers ...	70,503 15 2	
„ Accounts between India and Bombay—					9,91,977 6 0
Bengal Uncovenanted Service Family Pension Fund	.....	188 7 0			

„ Accounts between Madras and Bombay—				„ Cash Recoveries	.....	482	10 8
III. Items adjustable by Madras Service Funds—				„ Accounts between Bombay and Marine—			
Military Fund	.....	367	2 9	IV. Items adjustable by the Marine Department	.....	44,177	1 8
„ Accounts between Bombay and Public Works Department (Ordinary Branches) Payments into Treasuries by Civil officers on account of Public Works Department	.....	175	0 0	„ Accounts between Bombay and Public Works Department (Ordinary Branches)— IV. Items adjustable by Public Works Department Inter-Departmental charges	.....	6,529	13 2
„ Accounts between Bombay and Public Works Department (Railway Branches) Southern Marátha Railway—				„ Accounts between Bombay and Public Works Department (Railway Branches) Southern Marátha Railway—			
III. Items adjustable by Public Works Department	.....	11,839	6 10	IV. Items adjustable by Public Work Department	.....	4,91,118	3 7
				„ Closing Balance	.....	105	6 4
Grand Total Rs. ...	.....	26,72,631	1 2	Grand Total Rs. ...	.....	26,72,631	1 2

No. $\frac{F.}{11748.}$

FOREST DEPARTMENT.

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
9th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1886-87.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber...	97,273 14 7	3,01,695 0 6	3,98,968 15 1	3,27,253 11 10	71,715 3 3	
	b. Firewood and charcoal	.....	3,621 12 6	3,621 12 6	3,046 5 11	575 6 7	
	c. Bámbus	.....	144 7 0	144 7 0	144 7 0	.....	
	e. Grass and other minor produce ...	.....	27,286 10 0	27,286 10 0	27,286 10 0	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber...	.....	23,819 12 3	23,819 12 3	23,819 12 3	.....	
	b. Firewood and charcoal	11 13 0	26,289 0 7	26,300 13 7	26,300 13 7	.....	
	c. Bámbus	.....	26,020 5 10	26,020 5 10	26,020 5 10	.....	
	d. Grazing and fodder grass	.....	5,949 7 6	5,949 7 6	5,949 7 6	.....	
	e. Other minor produce	.....	1,559 9 1	1,559 9 1	1,559 9 1	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	12,187 9 0	12,187 9 0	5,060 1 0	7,127 8 0	
	Total Northern Division of Kánara ...	97,285 11 7	4,28,573 10 3	5,25,859 5 10	4,46,441 4 0	79,418 1 10	
Central Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber...	10,886 12 0	2,77,954 9 8	2,88,841 5 8	2,59,574 6 3	29,266 15 5	
	b. Firewood and charcoal	.....	999 10 0	999 10 0	999 10 0	.....	
	c. Bámbus	.....	4 8 0	4 8 0	4 8 0	.....	
	d. Sandalwood	38 4 0	1,315 2 3	1,353 6 3	1,315 2 3	38 4 0	
	e. Grass and other minor produce ..	71 3 0	3,913 4 7	3,984 7 7	1,565 14 5	2,418 9 2	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber..	.....	11,555 0 2	11,555 0 2	11,555 0 2	.....	
	b. Firewood and charcoal	6 0 0	13,108 4 9	13,114 4 9	13,114 4 9	.....	
	c. Bámbus	.....	9,886 2 2	9,886 2 2	9,886 2 2	.....	
	d. Grazing and fodder grass	.....	6,408 3 9	6,408 3 9	6,408 3 9	.....	
	e. Minor produce...	331 4 0	6,861 5 0	7,192 9 0	7,192 9 0	.....	
	III.— Confiscated, Drift and Waif Wood ...	.....	93 11 4	93 11 4	93 11 4	.....	
	Total Central Division of Kánara ...	11,333 7 0	3,32,099 13 8	3,43,433 4 8	3,11,709 8 1	31,723 12 7	

Southern Division, Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	18,672 2 5	47,336 6 0	66,008 8 5	44,162 14 6	21,845 9 11
	b. Firewood and charcoal	.....	.....	.....	.....	.....
	d. Sandalwood	.....	474 13 10	474 13 10	474 13 10	.....
	e. Grass and other minor produce ...	9 6 0	31,358 7 3	31,367 13 3	31,367 13 3	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	4 8 0	21,740 3 4	21,744 11 4	21,744 11 4	.....
	b. Firewood and charcoal	5 10 0	2,147 5 0	2,152 15 0	2,152 15 0	.....
	c. Bámbus	0 8 0	970 6 0	970 14 0	970 14 0	.....
	d. Grazing and fodder grass	.....	8,379 0 7	8,379 0 7	8,379 0 7	.....
	e. Other minor produce	326 9 0	1,547 10 6	1,874 3 6	1,740 10 2	133 9 4
	III.—Confiscated, Drift and Waif Wood ...	.....	636 2 1	636 2 1	636 2 1	.....
	Total Southern Division of Kánara ...	19,018 11 5	1,14,590 6 7	1,33,609 2 0	1,11,629 14 9	21,979 3 3
Belgaum ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	441 9 6	91,145 13 9	91,587 7 3	91,233 3 3	354 4 0
	b. Firewood and charcoal	12 0 0	89,512 12 6	89,524 12 6	89,486 8 6	38 4 0
	c. Bámbus	.....	6 12 0	6 12 0	6 12 0	.....
	d. Sandalwood	.....	2 3 0	2 3 0	2 3 0	.....
	e. Grass and other minor produce ...	5,802 8 0	28,396 4 1	34,198 12 1	34,198 12 1	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	.....	7,399 7 2	7,399 7 2	7,399 7 2	.....
	b. Firewood and charcoal	.....	5,507 0 0	5,507 0 0	5,507 0 0	.....
	c. Bámbus	.....	4,793 3 7	4,793 3 7	4,793 3 7	.....
	d. Grazing and fodder grass	*423 0 0	16,436 7 1	16,859 7 1	16,856 7 1	3 0 0
	e. Other minor produce...	.....	3,123 10 6	3,123 10 6	3,123 10 6	.....
	III.—Confiscated, Drift and Waif Wood ...	.....	42 7 6	42 7 6	42 7 6	.....
	Total Belgaum ...	6,679 1 6	2,46,366 1 2	2,53,045 2 8	2,52,649 10 8	395 8 0
Dhárwár ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	†31,124 0 0	81,817 14 0	1,12,941 14 0	81,880 0 6	31,061 13 6
	b. Firewood and charcoal	130 0 0	7,187 14 0	7,317 14 0	7,317 14 0	.....
	d. Sandalwood	45 0 0	2,291 2 0	2,336 2 0	1,862 7 0	473 11 0
	e Grass and other minor produce ...	184 0 0	27 5 0	211 5 0	211 5 0	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber...	.....	306 9 6	306 9 6	306 9 6	.....
	b. Firewood and charcoal	.....	541 2 8	541 2 8	541 2 8	.....
	c. Bámbus	.....	4,721 10 6	4,721 10 6	4,721 10 6	.....
	d. Grazing and fodder grass	.....	15,428 7 10	15,428 7 10	15,428 7 10	.....
	e. Other minor produce...	.....	1,397 2 9	1,397 2 9	1,397 2 9	.....
	III.—Confiscated, Drift and Waif Wood ...	.....	30 9 1	30 9 1	30 9 1	.....
	Total Dhárwár ...	31,483 0 0	1,13,749 13 4	1,45,232 13 4	1,13,697 4 10	31,535 8 6

* The difference of Rs. 637 has been written off the accounts: *vide* G. R. No. 858 of 5th February 1887.

† In last year's statement the Divisional Forest Officer had shown by mistake Rs. 30 in excess.

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Bijápur ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	c. Bámbus	.....	2 9 0	2 9 0	2 9 0	.....	
	d. Sandalwood	.....	180 1 0	180 1 0	180 1 0	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	1,419 4 6	1,419 4 6	1,419 4 6	.....	
	b. Firewood and charcoal	.....	11,471 6 3	11,471 6 3	11,471 6 3	.....	
	c. Bámbus	.....	1 3 2	1 3 2	1 3 2	.....	
	d. Grazing and fodder grass	38 8 0	4,615 11 0	4,654 3 0	4,654 3 0	.....	
	e. Other minor produce...	.....	4,601 13 9	4,601 13 9	4,601 13 9	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	29 1 9	29 1 9	29 1 9	.....	
	Total Bijápur ...	38 8 0	22,321 2 5	22,359 10 5	22,359 10 5	.....	
Kolába ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber...	.....	8,784 3 4	8,784 3 4	8,784 3 4	.....	
	b. Firewood and charcoal	.....	459 7 3	459 7 3	459 7 3	.....	
	e. Grass and other minor produce ...	.....	4 4 9	4 4 9	4 4 9	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	4,158 12 0	1,03,111 14 6	1,07,270 10 6	1,07,270 10 6	.....	
	b. Firewood	*3,750 0 0	36,743 15 10	40,493 15 10	33,715 2 4	6,778 13 6	*Last year the Divisional Forest Officer had wrongly shown the estimated value as outstanding instead of the amount actually due. Hence Rs. 2,500 shown in excess have been omitted in this statement.
	d. Grazing and fodder grass	... ..	1,362 12 3	1,362 12 3	1,362 12 3	.....	
	e. Other minor produce...	.....	1,474 7 1	1,474 7 1	1,474 7 1	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	1,622 10 3	1,622 10 3	1,622 10 3	.....	
	Total Kolába ...	7,908 12 0	1,53,563 11 3	1,61,472 7 3	1,54,693 9 9	6,778 13 6	
	I.—Timber and other Produce removed from the Forests by Government Agency—						
	a. Timber...	.....	4,559 12 0	4,559 12 0	4,559 12 0	.....	
	b. Firewood and charcoal	.....	51 0 0	51 0 0	51 0 0	.....	
	e. Grass and other minor produce ...	.....	58 0 0	58 0 0	58 0 0	.....	

Ratnágiri ...	*II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—*					
	a. Timber	.....	94 14 5	94 14 5	94 14 5	.....
	b. Firewood and charcoal	.....	27 4 1	27 4 1	27 4 1	.....
	d. Grazing and fodder grass ...	.....	284 9 7	284 9 7	284 9 7	.....
	e. Other minor produce ..	.....	21 5 9	21 5 9	21 5 9	.....
	III.—Confiscated, Drift and Waif Wood ...	.....	78 15 10	78 15 10	78 15 10	.....
	Total Ratnágiri ...	.....	5,175 13 8	5,175 13 8	5,175 13 8	.....
Abstract of the Southern Circle.	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	1,58,398 6 6	8,13,293 11 3	9,71,692 1 9	8,17,448 3 8	1,54,243 14 1
	b. Firewood and charcoal	142 0 0	1,01,832 8 3	1,01,974 8 3	1,01,360 13 8	613 10 7
	c. Bámbus	.....	158 4 0	158 4 0	158 4 0	.....
	d. Sandalwood	83 4 0	4,263 6 1	4,346 10 1	3,834 11 1	511 15 0
	e. Grass and other minor produce...	6,067 1 0	91,044 3 8	97,111 4 8	94,692 11 6	2,418 9 2
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	4,163 4 0	1,69,447 1 10	1,73,610 5 10	1,73,610 5 10	.....
	b. Firewood and charcoal	3,773 7 0	95,835 7 2	99,608 14 2	92,830 0 8	6,778 13 6
	c. Bámbus	0 8 0	46,392 15 3	46,393 7 3	46,393 7 3	.....
	d. Grazing and fodder grass ...	461 8 0	58,864 11 7	59,326 3 7	59,323 3 7	3 0 0
	e. Other minor produce	657 13 0	20,587 0 5	21,244 13 5	21,111 4 1	133 9 4
	III.—Confiscated, Drift and Waif Wood ...	.....	14,721 2 10	14,721 2 10	7,593 10 10	7,127 8 0
	Grand Total ...	1,73,747 3 6	14,16,440 8 4	15,90,187 11 10	14,18,356 12 2	1,71,830 15 8

For difference of Rs. 30 between this item and the last year's similar item *vide* remark against I. A in Dhárwár Division.
For difference *vide* remark against this head under Kolába.
For difference of Rs. 637 *vide* remark against this head under Belgaum.

Conservator's Office, S. C.,
dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S. C.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1886-87.

Division.	Department Debtor, At commencement of year.	Department Debtor, Recoveries in Cash and Value of Supplies and Work done during year.	Department Debtor, At close of year.	Department Creditor, At commencement of year.	Department Creditor, Payments made during year.	Department Creditor, At close of year.	Balance due, To Department (Outstandings).	Balance due, By Department (Liabilities).	Remarks.
Contractors.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
Belgaum	...	1,262 5 6	1,262 5 6	1,262 5 6	.....	1,262 5 6	.....	...	
Dhárwár	...	2,650 0 0	2,650 0 0	.....	2,850 0 0	2,850 0 0	200 0 0	...	
Kánara, C. D.	...	11,089 3 9	11,089 3 9	6,482 3 9	4,607 0 0	11,089 3 9	.....	...	
Kánara, N. D.	...	65,979 9 6	65,979 9 6	62 8 6	65,962 9 6	66,025 2 0	45 8 6	...	
Kánara, S. D.	...	2,250 0 0	2,250 0 0	.....	2,250 0 0	2,250 0 0	.....	...	
Total Contractors ...	...	83,231 2 9	83,231 2 9	7,807 1 9	75,669 9 6	83,476 11 3	245 8 6	...	
Disbursers.									
Belgaum	...	62,583 15 10	62,583 15 10	839 15 11	63,505 11 7	64,345 11 6	1,761 11 8	...	
Bijápur	...	11,046 15 10	11,046 15 10	.....	11,094 0 1	11,094 0 1	47 0 3	...	
Dhárwár	...	28,790 4 0	28,790 4 0	.....	28,790 4 0	28,790 4 0	.....	...	
Kánara, C. D.	...	87,286 14 11	87,286 14 11	(a)1,816 5 3	86,419 4 3	88,235 9 6	948 10 7	...	(a) Rs. 1,816-10-8 adjusted by a journal entry in the accounts for 1885-86: *vide* Government Resolution No. 2508 dated 21st August 1886.
Kánara, N. D.	...	59,014 11 1	59,014 11 1	16 11 6	59,011 8 11	59,028 4 5	13 9 4	...	
Kánara, S. D.	...	46,382 6 9	46,382 6 9	1,568 13 8	47,485 13 11	49,054 11 7	2,672 4 10	...	
Kolába	...	34,670 14 11	34,670 14 11	775 11 0	34,135 1 6	34,910 12 6	239 13 7	...	
Ratnágiri	...	3,308 6 1	3,308 6 1	63 1 2	3,424 8 8	3,487 9 10	179 3 9	...	
Total Disbursers ...	...	3,33,084 9 5	3,33,084 9 5	(a)5,080 10 6	3,33,866 4 11	3,38,946 15 5	5,862 6 0	...	
Grand Total ...	...	4,16,315 12 2	4,16,315 12 2	12,887 12 3	4,09,535 14 5	4,22,423 10 8	6,107 14 6	...	

No. $\frac{F.}{11743}$

Forwarded to the Conservator of Forests, Southern Circle, with reference to paragraph 238 of the Forest Code.

Bombay, Accountant General's Office,
9th August 1887.

GODREZJI D. PUDUMJI,
for Accountant General.

FORM No. 62.

FOREST DEPARTMENT, BOMBAY SOUTHERN CIRCLE.

Financial Results of the year 1886-87.

Divisions	TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY.		OTHER REVENUE.		FORMATION, PROTECTION AND IMPROVEMENT OF FORESTS.	TOTAL.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction	.....	.....	.....	28,850	.....	.....	28,850	
Northern Division of Kánara	3,62,791	1,82,686	84,811	6,824	3,013	4,47,602	1,92,523	
Central Division of Kánara	2,63,460	1,18,807	51,071	7,473	12,539	3,14,531	1,38,819	
Southern Division of Kánara	76,332	33,806	35,851	14,367	11,242	1,12,183	59,415	
Belgaum	2,14,927	84,583	43,500	15,948	15,712	2,58,427	1,16,243	
Dhárwár	91,272	36,521	22,983	10,411	10,020	1,14,255	56,952	
Kolába...	9,248	5,824	1,49,369	35,421	20,443	1,58,617	61,688	
Bijápur	182	163	22,535	12,881	9,452	22,717	22,496	
Ratnágiri	4,669	8,104	792	632	8,892	5,461	17,628	
Total ...	10,22,881	4,70,494	4,10,912	1,32,807	91,313	14,33,793	6,94,614	

Conservator's Office, S.C.,
dated Belgaum, the 18th October 1887.

J. L. L. MACGREGOR,
Conservator of Forests, S.C.

No. 58 OF 1888.

REVENUE DEPARTMENT.

Poona, 7th January 1888.

MEMORANDUM.

In submitting to Government the Forest Administration Report of the Southern Circle for the year 1886-87, the Commissioner S. D. has the honour to record the following remarks:—

2. The variations in the areas of the different classes of forests are fully stated in paragraphs 4 to 6 of the report.

3. During the year the settlement work in Kolába was vigorously carried on by Mr. Sinclair, and the work is now virtually completed. Two settlement reports are now under consideration in the Commissioner's office.

4. The forest demarcation and settlement in the Ratnágiri District has been a failure. Mr. Woodward's proposals for the settlement of 22 villages in the Khánápur Táluka of the Belgaum Collectorate were, on the recommendation of the undersigned, negatived; and Mr. Wingate was directed to do the settlement of forests of the whole táluka, including those villages. In Kánara, the settlement of the areas in the Honávar, Sirsi, and Ankola tálukás, notified under Section 4 of the Indian Forest Act, is in progress. The report on the forest settlement of the Yellápur Táluka has lately been received in this office, and will shortly be submitted to Government. The reports on the demarcation and settlement of forests in the Bádámi, Hungund, and Bágalkot tálukás of the Bijápur District are under consideration by the Commissioner, and will be laid before Government when the grazing question is satisfactorily settled.

5. The observations of the Conservator (paragraph 23) about the heavy cost and slow progress of the forest survey that is going on deserve the special consideration of Government.

6. During the year, no working plans were drawn up, owing to the insufficiency of establishment. The Conservator, however, proposes to spare the services of another Sub-Assistant Conservator for employment on the preparation of working plans during the ensuing working season, and it is hoped that the next report will show greater progress in this important branch.

7. The total number of cases in which prosecutions were instituted during the year for breaches of forest rules was 152, as compared with 121 in the previous year. An increase in the number of prosecutions is apparent in all the districts except Bijápur. In Kolába, where the increase was the largest, the number of prosecutions rose from 44 to 78, and the cause assigned is illegal cultivation on dalhi lands. The decrease of 1 case in the number of unsuccessful prosecutions is insignificant. The number of cases compounded was the same as in the preceding year, while the amount of fines aggregated Rs. 2,336, against Rs. 1,501 in the previous year. These figures are not very satisfactory.

8. It is unsatisfactory to notice that forest fires were more numerous and the area burnt larger than in the preceding year.

9. The experiment of combining the raising of useful plants with kumri cultivation was again a failure in both Kánara and Belgaum; and it now appears pretty certain that the experiment will never succeed. It is, however, satisfactory to learn that the experiments made with Pithecolobium Saman and Divi-Divi were fairly successful.

10. In all the districts, except Bijápur, free grants of wood were made in the year under review. The value of the free grants amounted to Rs. 21,885, against Rs. 18,659 in the last year. The increase in the value of free grants occurs chiefly in Kolába, where the grants were given with the special sanction of Government.

11. The outturn of work during the year under report at the Kannigeri and Kirwatti Saw Mills was greater than in the preceding year, and it is the more satisfactory that this was effected at a smaller cost.

12. Comparing the year 1886 with 1885 it is observed that the gross and net receipts fell from Rs. 17,92,114 and Rs. 10,69, 528 to Rs. 14,33,793 and Rs. 7,39,179 respectively and the charges from Rs. 7,22,586 to Rs. 6,94,614. Excepting the year 1885, the revenue is the largest on record. There was an unexpected increase in the revenue of that year on account of the considerable number of sleepers supplied to the Southern Marátha Railway Company, while the number of sleepers supplied to the company during the year under report was much smaller. This accounts for the decline. On the opening of the West Deccan line of the Southern Marátha Railway for through traffic the demand for timber and other produce of the Kánara forests will increase, and it may be confidently expected that the revenues of the Southern Circle will gradually but steadily increase in future years.

13. For nine months of the year under review the Forest Department of the Southern Circle was administered by Colonel Peyton, who vacated the post of Conservator on the 27th December 1886.

14. In Colonel Peyton's retirement Government has lost the services of an able officer whose constant endeavour was to promote forest conservancy and improvement without losing sight of the just requirements of the people.

15. The Commissioner S. D. during last touring season inspected a considerable portion of the forest area in the Southern Division, and was much pleased with the local arrangements in force.

W. H. PROPERT,
Commissioner, S. D.

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Statement showing the Progress of Forest Demarcation and Settlement Work in the several Districts of the Southern Circle for the year 1886-87.

Class of Forests.	At the commencement of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.		Area settled during the year.				Area of Reserved Forests alienated under Section 26.		Area of Protected Forests disforested under Government orders.		At the end of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.	
			Chapter II of the Act.		Chapter IV of the Act.							
	Sq. Miles.	Acres.	Sq. Miles.	Acres.	Sq. Miles.	Acres.	Sq. Miles.	Acres.	Sq. Miles.	Acres.	Sq. Miles.	Acres.
Reserved Forests.												
Kánara	214	439	...	...	...	...	...	...	...	...	214	439
Belgaum	360	221	...	...	...	...	...	...	...	...	360	221
Kolába	215	47	68	587	...	...	...	¾	...	...	146	99¼
Bijápur	155	115	...	...	...	...	...	...	...	...	155	115
Ratnágiri	20	13	...	...	...	...	...	...	...	...	20	13
Total ...	965	195	68	587	...	...	...	¾	...	...	896	247¼
Protected Forests.												
Kanára	2,508	321	...	...	...	...	...	...	...	...	2,508	321
Kolába	69	129	...	...	25	54	...	...	6	624 21/40	37	90 19/40
Bijápur	89	409	...	...	...	...	...	...	...	...	89	409
Total ...	2,667	219	...	...	25	54	...	...	6	624 21/40	2,635	180 19/40
Grand Total ...	3,632	414	68	587	25	54	...	¾	6	624 21/40	3,531	427 29/40

Conservator's Office, Southern Circle,
Camp Dhárwár, 17th January 1888.

J. L. L. MacGREGOR,
Conservator of Forests, S. C.

SIND CIRCLE.

No. 5396 OF 1887.

REVENUE DEPARTMENT.

Commissioner's Office,

Karachi, 18th October 1887.

Submitted to Government.

2. There seems little for the Commissioner to say regarding this report which is concise and clear. The year has been uneventful and it is unnecessary to recapitulate the results of the ordinary administration of the department.

3. It is satisfactory to notice that both the gross and net revenue are the largest ever obtained in the Sind Circle. The expenditure is also of necessity very high as the forests depend for revenue chiefly on the demand for firewood.

4. The Commissioner considers that Colonel MacRae is entitled to credit for the efficient administration of the department in his charge.

C. B. PRITCHARD,
Acting Commissioner in Sind.

No. 741 of 1887-88.

From

LIEUTENANT-COLONEL J. G. MACRAE,

Conservator of Forests,

Sind Circle.

To

THE SECRETARY TO GOVERNMENT,

REVENUE DEPARTMENT.

Conservator's Office,

Hyderabad, 10th September 1887.

Sir,

I have the honour to forward herewith the Forest Administration Report of the Sind Circle for the year 1886-87, with its subsidiary Statements.

I have the honour to be,

Sir,

Your most obedient Servant,

J. G. MACRAE, Lieut.-Colonel,

Conservator of Forests, Sind Circle.

Through the Commissioner in Sind.

ANNUAL ADMINISTRATION REPORT OF THE SIND FOREST DEPARTMENT, FOR THE YEAR 1886-87.

Introduction.

The area of the Sind Forests at the end of the year under report was 699 square miles and 409 acres, a gain of 26 square miles and 203 acres over the area as it stood on 1st April 1886. Of this 24 square miles and 101 acres was added by newly demarcated Reserves, and the balance is the net gain by changes of the river.

But the land lost by erosion was, much of it, valuable forest, whereas the land gained is mere sand-banks, at present and its value depends on its further development.

2. Forest demarcation has been completed and the office of the Forest Settlement Officer is to be broken up.

3. Much damage was done by forest fires caused by cattle-breeders setting fire to the reed jungle and grass in Upper Sind with a view to checking the ravages of cattle-disease which was very prevalent in the district, otherwise the protection of the forest has been good, and the relations of the people with the subordinates of the Department satisfactory. Two known thieves of forest material—men who had been previously convicted of similar offences, were caught in possession of a large quantity of timber evidently stolen from the Upper Sind Forests. They were convicted by the City Magistrate and sentenced to Rs. 400 and Rs. 450 fine respectively, and both to imprisonment for 12 months, but on appeal to the Sessions Judge of Shikarpur they were let off with a fine of Rs. 50.

4. The Revenue both gross and net is the largest ever shown in this Circle and gives a net result of six annas per acre of land under Forest management.

5. The export of wood to Bombay and Katiawar coast is fairly satisfactory and the export of charcoal to Aden and the Persian Gulf on the increase.

6. Mr. Tuljaram was appointed Sub-Assistant Conservator of Forests on the 24th of August 1886. No other changes in the Forest Staff have to be recorded.

CHAPTER I.

Area and Boundaries.

7. The following statement shows the area of the Sind Forests as it stood on 31st March 1886, also the additions thereto and the exclusions therefrom :—

Area as it stood on 31st March 1886.		Area added during the year or gained by action of the river.		Area excluded during the year or lost by action of the river.		Area as it stood on 31st March 1887.	
Sqr. Miles.	Acres.	Sqr. Miles.	Acres.	Sqr. Miles.	Acres.	Sqr. Miles.	Acres.
673	206	34	553	8	350	699	409

A very extensive area has been lost by the action of the river in Upper Sind. The Shahu and Jamshero forests have been so much eaten into by the river that the former has nearly disappeared and only a few hundred acres of the latter are left. The river in this part of the Province winds very much and has several old beds; both the threatened forests will probably disappear unless a decided change takes place in the set of the river.

In Central Sind the loss by erosion has not been serious but in Lower Sind 1,350 acres have been lost, 830 of which were good Babul Forest.

The total area lost by erosion is 5,470 acres, the fresh alluvial land thrown up amounts to 6,850 acres. Rs. 1,531 were spent in keeping eroding banks clear of timber. Rs. 3,940 were realized by the sale of material so cut and material to the value of Rs. 360 remained on hand at the end of the year.

8. A "Kacha" or alluvial accretion to the Lalia Forest which was thrown up in 1877 was worked for the first time this season for Railway fuel (Tamarisk). The quantity taken out was not very large but there is abundant material on the Kacha and the yield will be larger yearly. It is satisfactory to know that land lost by erosion can be replaced by workable forest in ten years' time. The "Kachas" moreover that are, as a rule, thrown up on one frontage where erosion takes place on another are of immense value as grazing-grounds, and for the raising of fodder-crops.

9. The usual statement giving the details of land selected for forest purposes during the last and previous years, and that finally constituted Reserved Forests is given below :—

Land selected for Forest purposes and notified under Section 4.				Land finally settled and constituted Reserved Forests during the year under report.		
Name of Forest.	Taluka.	Area in acres.	Year in which originally notified.	Name of Forest.	Taluka.	Area in Acres.
Shikarpur	Shikarpur.	49,159·0	1880	Bagban.	Dadu.	1,946·35
Pir Nazir	Do.	18,549·0	1882	Phaka.	Do.	2,206·30
Kaper Shah				Pipri.	Do.	925·20
Mohro Mari				Gidarji.	Manjhand.	854·35
Amrote	Labdaria.	10,844·0	1882	Raharki.	Ubauro.	1,653·30
Muso	Do.	4,311·0		Reti.	Do.	2,287·35
Ali Ganj	Tatta.	431·20	1884	Rangu.	Do.	971·22
Hilaya		849·18		Naruli.	Do.	1,376·14
Shah Lanko		312·10		Bhani	Sehwan.	1,138·3
Tatta		12,388·30		Kolubori.	Do.	747·25
Gharko		933·23		Khathar.	Hyderabad.	39·30
Chachh		3,361·27		Raiswah.	Shikarpur.	904·20
Ghangherko	Tigir and Labdaria.	6,210·30	1884	Messa.	Kotri.	308·0
Budo-dero		1,617·15				15,461·19
Soi		5,851·0				
Gajidero		5,661·15				

Land selected for Forest purposes and notified under Section 4.				Land finally settled and constituted Reserved Forests during the year under report.		
Name of Forest.	Taluka.	Area in acres.	Year in which originally notified.	Name of Forest.	Taluka.	Area in Acres.
Rohri	Rohri.	15,393.3	1885			
Ghangherko	Tigir.	2·0	1885			
Lakhi	Sukkur.	3,592·15	1885			
Ghari Halim	Sukkur.	2,081·20	1885			
Gharichand	Jacobabad.	19·35	1885			
Dilmurad	Thul.	48·9	1885			
Bangal Kalochi	Mirpur.	89·0	1885			
Mirpur	Mirpur.	8,566·24	1885			
Ghotki	Ghotki.	31,661·24	1885			
Kadrapur	Sukkur.	78·30	1885			
Jamshero	Ghotki.	57·20	1886			
Ghari Yasin	Naushahro Abro.	26,891·13	1886			
Mahomedpur	Jacobabad.	2,577·34	1886			
Hazaro	Jacobabad.	3,421·21	1886			
Khairwah	Jacobabad.	56·30	1886			
Gokalpur	Jacobabad.	64·30	1886			
Mirpur	Thul.	2,309·39	1886			
Mehrabpur	Thul.	4,817·37	1886			
Bakhtawarpur	Thul.	6,059·38	1886			
Jagan	Thul.	2,316·15	1886			
Tarai	Naushahro Abro.	2,349·5	1887			
Chango Rohuja	Naushahro Abro.	1,749·35	1887			
Choi	Naushahro Abro.	3,132·20	1887			
Adamji	Naushahro Abro.	4,352·25	1887			
Phohyari	Naushahro Abro.	473·4	1887			
Masti Khan	Naushahro Abro.	225·0	1887			
Kacho Alibhar	Sujawal.	3,000·0	1887			
Do. Surjani	Sujawal.	3,410·0	1887			
Do. Keti Saidino	Sujawal.	2,500·0	1887			
Naruli	Ubauro.	5·3	1887			
	Total...	2,51,784·37				

10. The Forest demarcation in Sind has been practically completed and the Forest Settlement Officer's Establishment will be broken up during the hot weather.

11. The total expenditure including the salaries of the Office Establishment of the Forest Settlement and Demarcation Officer in Sind incurred during the year under report in the creation and constitution of forests amounted to Rs. 2,562-9-2.

12. The demarcation of forests in the Kashmor Taluka has been postponed, but by agreement between the Deputy Commissioner, Upper Sind Frontier, and the Conservator, with the sanction of the Commissioner in Sind, the extensive jungles in the taluka are left under the protection of the Forest Department till such time as it will be advisable to undertake regular demarcation; perhaps after the introduction of the Revenue Survey Settlement.

CHAPTER II.

SURVEYS, WORKING PLANS AND ANNUAL PLANS OF OPERATIONS.

13. The survey of the forests on a scale of four inches to the mile has been continued. The progress made has not been as great as it might have been, owing to the work of the only Surveyor procurable being broken into by the necessity for sending him up to the Kashmor Taluka to make surveys of two tracts of land that it was intended to take up for Forest purposes.

The surveys of Forests prosecuted are as under :—

Phatah.....	258	acres.
Khadi	4,500	„
Laikpur	7,406	„
Total...	12,164	„

14. The plan of working out the compartments for fuel in succession and closing them for reproduction, has been adhered to in respect of the forests generally, but in the Laikpur forest, a working plan the details of which are given below, has been introduced tentatively.

The Laikpur Forest is one some distance from the river and having a very precarious water-supply, produces chiefly Kandi but is capable of yielding much material for Railway fuel. Its distance from the river, however, makes it expensive to work. To get the wood cut and delivered at paying rates and at the same time to get water on the land for the general benefit of the forest the following arrangement has been made with a Zamindar. He undertakes to clear the compartments in succession of all the Kandi on them and deliver the wood resulting from the fellings at Kotri at a fixed rate. He is to be permitted to cultivate the land cleared for two seasons. He makes his own arrangements for water and pays the usual land assessment. At the end of the second year he is to fence in one compartment and receive another to clear and cultivate, and the same the following year, so that every year one compartment will be cleared, and another that has been watered for two seasons, closed for reproduction. The agreement to cease if the Zamindar does not abide strictly by it and work in the interests of the Department.

The Zamindar has worked well so far, and as Kandi coppice raised in this way is always very satisfactory I have every reason to believe the plan will be highly successful.

15. The boundaries of the new Reserves have been laid down by a cleared path 20 feet wide and earth cairns with a post in the middle at each bend and at every five chains along the straight. The brushwood resulting from the clearing of the boundary-path is thrown up as a fence on the inner edge of the boundary-path and as far as practicable simultaneously with the laying down of the boundaries the forests have been cut up into compartments.

One hundred and eighty-four miles of compartment lines have been cut and the boundaries of the following Reserves laid down:—

Raheki.	Phaka.
Reti.	Noabad.
Rangoo.	Bhan.
Narli.	Gidárji.
Dangar.	Messa.
Phati Bilawal.	Khathar.

CHAPTER III.—PROTECTION AND IMPROVEMENT.

SECTION I.—ESTABLISHMENTS.

16. Mr. Tuljaram was appointed Sub-Assistant Conservator of Forests on the 24th August 1886.

No other change has taken place in the permanent protection or office establishment of the Sind Circle, and I have nothing particular to note under this head.

SECTION II.—GENERAL PROTECTION AND BREACHES OF FOREST LAW.

17. The general protection of the forests as evidenced by their condition and the reports of the Divisional Forest Officers is very good, and the conduct of the Protective Staff on the whole has been satisfactory.

18. The following table shows the number of cases tried before Magistrates, with results:—

Name of Division.	Number of cases tried before Magistrates.		Number of convictions.	
	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	23	20	7	12
Jacobabad	41	18	12	13
Naushahro	14	4	6	9
Hyderabad	16	15	11	12
Jerruck	4	1	1	1
Total...	98	58	37	47

The number of acquittals as compared to convictions is still very high, but the fact can only be attributed to the difficulty of getting convictions in Forest offences.

19. No prosecution is permitted without the sanction of the Divisional Forest Officers and the enormous number of offences compounded as compared to prosecutions shows that Divisional Forest Officers are not inclined to send up petty cases for trial.

I may here quote a case illustrating the difficulty of getting convictions in cases of Forest offences.

Udho and Lalu who had been formerly convicted of theft of timber from Government forests, and who have the reputation of preying on the Upper Sind Forests, were found in possession of timber which had evidently been stolen from a Government Forest, and which they admitted had come from a Government forest, but that they had obtained it from one Nural who had bought it from the Forest Department. Nural repudiated this statement. Most of the logs had no marks, others had fictitious numbers stamped on them that the register showed had not been stamped on the description of logs on which they were found, and which were in the possession of the accused. The case was tried before the Town Magistrate, Sukkur, and the accused were convicted of theft and awarded twelve months' imprisonment and a fine of Rs. 400 and 450 each. But on appeal to the Sessions Judge of Shikarpur they were acquitted of the chief offence and fined Rs. 50 for importing timber into Sukkur without a duly qualified pass.

20. A good many of the cases in which conviction has not been obtained are of assaulting Forest guards. These would be always difficult cases to prove as villagers are not likely to give evidence in favour of a Forest guard and against their own tribesmen, and no other kind of witness is likely to be available.

21. The cases compounded are given below:—

Division.	Illicit grazing.		Theft.		Other offences.		Compensation.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	299	293	49	67	7	15	2,002	3,265
Jacobabad	...	12	...	3	...	1	...	87
Naushahro	...	....	...	16	...	...	...	35
Hyderabad	357	357	...	5	...	2	304	281
Jerruck	319	282	28	6	...	3	450	338
Total.....	975	944	77	97	7	21	2,756	4,006

On the whole there is not much crime to complain of, and the relations of Forest subordinates with the people are satisfactory, except in respect of the Cattle-breeders in the Shahbander District where illicit grazing in the Forest is very common and leads to collisions between the maldars (cattle-breeders) and the Forest guards.

Section 3. Fires.

22. In Upper Sind the forest fires were very extensive and destructive. It was feared that this *would* be the case. There was much cattle-disease in the district and the cattle-breeders believed that it would not cease till the old reeds and grass had been burnt. There was much truth in this as the dead cattle were lying rotting in the high reeds and grass and infecting the sound cattle grazing in them. The people to save their cattle set fire to the grass wherever they could do so without fear of detection, and an area of nearly eleven thousand acres was burnt. About half was chiefly reeds and grass of not much account but the rest was good jungle, including a great number of compartments under reproduction that were nearly ready to work again. These compartments have been worked once already and their destruction causes a loss of many years' protection. Only one case is reported of a man being caught setting fire to a forest and being convicted of the offence.

In Central and Lower Sind the forest fires were unimportant and very little damage was done by them.

23. The protection of the Upper Sind Forest from fire especially in a season like the one under report is simply hopeless. The only practical plan of saving good jungle from fire in this district is what I have before advocated but which I regret does not commend itself to the Government of India, and this is to divide the Forests into grazing and timber blocks. The former to consist of the tracts of reed and coarse grass with a few scattered bushes struggling for existence against the recurring fires. The area set apart for grazing should be freely burnt so as to provide fresh young grass. This would increase the revenue from grazing fees, benefit the people and tend to save the better part of the forests from fire.

As I have said before fires in such jungles are likely to do more good than harm.

If the reeds are protected they are sure to destroy when they do catch fire any tree growth that may come up with them and their being burnt is merely a question of time.

But if the reeds are burnt and the fresh shoots kept down by cattle, the next inundation may drown the reed roots and give the Tamarisk and Kandi a chance of over-topping the next crop of reeds and grass that may come up.

The Shahpur forest is a case in point. All the lower part of this forest I can remember as a sea of reeds and grass the scene of extenseve fires. Some years ago the entire area of low-lying land was burnt very late in the season. The next inundation submerged the roots of the reeds before they had time to shoot again and killed them, the next year the Tamarisk coppice that had been kept down by the fires came up with such strength that it overtopped the grass, and now that part of the forest is a dense Tamarisk jungle safe from fire, and will, in a year or two, yield immense quantities of locomotive fuel. It was worked a little for thin wood last year.

By widening the compartment lines of the squares to be burnt and choosing a still day for firing the reeds, the risk of the fire extending beyond the limits it was intended to reach would be very slight.

24. The following comparative statement gives the number of fires and the area burnt during the previous and the year under report :—

Division.	Number of Fires.		Area burnt.	
	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	53	79	8,046	11,029
Jacobabad	6	7	88	90
Naushahro	13	9	590	882
Hyderabad	7	12	245	579
Jerruck	2	12	33	153
Total	81	119	9,002	12,733

Section 4. Grazing.

25. During the year under report the scale of grazing fees was revised and the forests of the circle were classed as 1st, 2nd and 3rd according to the quality of grazing they can afford, and the following scales were made applicable to each class :—

1st class rate of grazing fees.

Camels	4	annas	a month.
Buffaloes...	3	„	„
Horses, Cows and Bullocks	1½	„	„
Donkey	1	„	„
Goats and Sheep	3	pies	„

2nd Class.

Camels	4	annas	a month.
Buffaloes...	1½	„	„
Horses, Cows and Bullocks	9	pies	„
Donkeys...	6	„	„
Goats	3	„	„
Sheep	2	„	„

3rd Class.

Camels	4	annas	a month.
Buffaloes	1	„	„
Horses, Cows, Bullocks and Donkeys	6	pies	„
Goats	3	„	„
Sheep	1	„	„

The first class includes all the old river-side forests in which the old rates of grazing fees, *i. e.*, 1st class have been retained. The other two classes are for forests demarcated since 1879, in which the grazing is poorer than in the river-side forests.

It will be noticed that the rate of fees for goats and camels is the same in all three classes. The reason for this is obvious, being browsing animals, one kind of forest affords as good feed to them as another and their presence is equally objectionable in all.

The inundation had been a high one and all the forests that are usually flooded were well watered and afforded good grazing and the Babul pod crop, which is collected for fodder, was a fairly good one.

Section 5. Natural reproduction.

26. In Upper Sind 48 compartments, including a good many that had been burnt, with an area of 6,840 acres, after being cleared of all available material for locomotive fuel were closed for natural reproduction during this year. But camels and goats only are excluded. The horned cattle do not eat Tamarisk, and Kandi coppice is so well protected by its own thorns that it is safe from them; any damage they may do is more than compensated for by their keeping down the grass which is such a source of danger in young forest. In Central and Lower Sind an area of 4,966 acres was closed for reproduction. In these parts of the Province where much Babul grows the compartments under reproduction are closed to horned cattle as well as all other kinds of beasts.

27. An area of 2,921 acres in which the new growth was sufficiently strong was opened to grazing during the year, leaving a total area of 20,440 acres closed.

The results of closing for reproduction are very satisfactory where the young growth has not been burnt or killed by frost. The damage by fire is confined to Upper Sind and has been very great. The damage done by frost is comparatively trifling, the roots of the majority of the Babul seedlings being still alive though the tops had been killed. Frost seldom destroys the whole crop of seedlings, the greater part of them come up again and after that as a rule they are safe except from very severe frost.

28. The Kadrapur block No. 2, Sukkur Division, which was burnt last year was cleared of all saleable material and closed again. This block was very nearly ready to work when it was burnt and it is interesting to note the results attained by mere closing and without any artificial irrigation. The block is 450 acres in extent. It only gets water in seasons of high flood when surplus water escapes into it from neighbouring Zamindari canals. The growth on it is Kandi and Bhan. It was closed in 1878. I saw it then, it was as nearly as possible an open Maidan; it had been very recently burnt and all the tree growth destroyed, the grass and coppice shoots of Kandi and Bhan were coming up again.

The block was fenced in and after three or four years opened to grazing by horned cattle only. But the grass had become so high that the cattle made very little impression on it. Last year it was burnt and three-fourths of the tree growth on it killed. The yield from the trees that had been burnt and which are the growth of only seven years is as under—

Bhan rafters	8,221
Bhan posts	6,159
Locomotive fuel	34,525 C. ft.
Ordinary fuel	7,276 Mds.

Section 6. Artificial reproduction.

29. Owing to want of funds nothing of much importance was done under this head.

In the Sukkur Division 7½ acres were added to the Tali plantation but the frost killed some of the seedlings, 4,000 survived and were from one to three feet in height at the end of the year. A plot of 7½ acres was ploughed and sown with Babul. The seedlings suffered from frost but have shot again and are reported to be doing well. Another plot of 20 acres, the site of former cereal cultivation, was also sown with Babul and is reported to be doing well.

Tali seedlings 225 in number were planted along a bund which has been lately put up by this Department to retain flood-water for the irrigation of the Kadrapur forest.

The old Tali plantation, some 90 acres in extent which are the result of small operations that were carried out between 1876 and 1882 during the time Mr. Dasai was District Forest Officer in Sukkur were thinned out. All the trees to be felled were marked by the District Forest Officer and only the crooked and useless ones, and such as were growing too thickly together, were taken out.

The result of the thinnings gave 23,125 cubic feet locomotive fuel, 50 maunds ordinary fuel, and 77 cubic feet of timber in small scantlings. The results are somewhat remarkable if the age of the plantations is kept in view, and the fact that merely the refuse was taken out.

I saw the thinning in progress and they did not appear to make an appeciable difference in the appearance of the plantation.

I think this is the first instance on record in the history of the Forest Department in the Bombay Presidency of forest material artificially grown by the Department being disposed of in any quantity.

30. In other Divisions the want of funds has prevented Planting operations being taken in hand; the existing plantations were kept up.

Section 7. Experiments.

31. *Prosopis Glandulosa* which was grown as an experiment over an area of 3½ acres in 1884 has established itself well and required no care after the first season, and has had no water since except rain water. It appears to be suitable for growth under natural conditions in Sind, but all the broadcast sowings of its seed that have been made have been failures. It is only of value as a fodder plant for its pods.

32. The experiment with Asri cuttings was continued by Mr. Dasai but the results are not satisfactory, only 112 having succeeded out of 1,500 planted, but he says this is due to want of care on the part of the Forester and he hopes to show better results under personal supervision.

Section 8. Communication and Buildings.

33. There were no funds available for anything but urgent repairs to existing buildings.

CHAPTER IV.—YIELD AND WORKING.

SECTION 1. DEPARTMENTAL OPERATIONS.

34. The following statement gives the details of the working of the Wood Depots :—

Name of Depot.	Stock on hand on 1st April 1886.			Added during the year 1886-87.			Disposed of during the year 1886-87.			Balance on 31st March 1887.		
	Timber.	Posts and rafters.	Fuel.	Timber.	Posts and rafters.	Fuel.	Timber.	Posts and rafters.	Fuel.	Timber.	Posts and rafters.	Fuel.
	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.
Shikarpur	...	320	40	25	18,755	...	25	19,075	40	...	...	...
Sukkur	1,584	1,516	165	7,995	39,119	8,507	5,592	24,021	6,112	3,987	16,614	2,395
Rohri	13	1,345	...	1,758	13,965	...	1,050	9,172	...	721	6,138	...
Larkana	642	1,104	...	...	1,000	10,000	204	1,103	2,803	438	1,001	7,197
Sehwan	...	7,989	...	53	1,716	...	53	9,594	...	...	111	...
Karachi	2,115	...	1,405	...	73	184	372	73	1,589	1,743	...	...
Tatta	361	2,142	...	...	...	...	24	420	...	337	1,722	...
Keti Bander	39	...	6,654	8,238	...	1,242	8,262	...	7,708	15	...	188
Kotri	975	...	8,539	3,469	...	1,08,144	3,620	...	1,06,521	824	...	10,162
Hyderabad	12,944	2,334	947	934	1,77,705	71,106	13,187	1,09,919	53,561	691	70,120	18,492

35. A statement showing the quantity of timber and fuel disposed of at each Depot during the year under report and the previous year is given below :—

Name of Depot.	Timber, C. ft.		Posts and rafters.		Fuel, Maunds.	
	1885-86.	1886-87.	1885-8.6	1886-87.	1885-86.	1886-87.
Shikarpur	...	25	1,990	19,075	1,110	40
Sukkur	4,447	5,592	15,479	24,021	1,195	6,112
Rohri	524	1,050	4,265	9,172	...	...
Larkana...	332	204	1,483	1,103	3,300	2,803
Sehwan...	210	53	6,226	9,594	...	...
Karachi...	243	372	501	73	7,756	1,589
Tatta	212	24	688	420	30	...
Keti Bander...	5,220	8,262	...	...	3,365	7,708
Kotri	2,802	3,620	75	...	1,02,740	1,06,521
Hyderabad	9,102	13,187	1,60,127	1,09,919	61,820	53,561

36. No change has been made in the system of working the Depots. The Hyderabad Depot is on the share system, all the others are worked departmentally in the ordinary way.

37. The Karachi Depot was found to be financially so unsuccessful that it has been abolished and the Establishment utilized on the Protection staff, where it was urgently required on account of the large area of newly demarcated Reserves that have been added to the Circle.

38. There is an increase in the sales in all the Upper Sind Depots, due to the better demand for timber that exists now and to meet which adequate arrangements were made by the Divisional Forest Officers, Sukkur and Jacobabad. The strict supervision exercised by Mr. Showkiram, Divisional Forest Officer, Sukkur, on the import of foreign timber in Sukkur and the capture and prosecution of Udho and Lalu alluded to in para. 19 of this report have also added to the demand for timber at the Government Depots.

39. The town of Shikarpur is supplied with firewood brought in by camel, cart and donkey-men under the permit-pass system: there is, therefore, such little demand for firewood at the Depot that it does not pay to keep it on sale there.

40. In Central Sind the Sehwan Depot shows an increase owing to better demand, and the Larkana Depot shows a falling off for the want of it. Larkana is also supplied with firewood under the permit-pass system and the demand for that article at the Depot is precarious, being limited in a great measure to brick and lime-burning contractors who require a considerable quantity at a time.

41. In the Hyderabad and Kotri Depots there is an increase under sales of "timber" but a falling off in posts and rafters—fluctuations due to the local demand. There is a slight falling off in firewood due to the same cause, as the Depot is kept well stocked.

42. In Lower Sind the Karachi Depot was doing such little work that it has been abolished. The poor sales at the Tatta Depot are attributed by the Divisional Forest Officer to the sale of large quantities of timber cut on canal banks; this is quite possible. Splendid Babul trees grow on both banks of the numerous canals that run through the district, numbers fall yearly or have to be removed when they endanger canal banks or embankments, and the usual practice of the Irrigation Department is to give the trees gratis to whomsoever will bear the expense of cutting and removing them; no other course appears feasible owing to the low price of wood in the district.

43. The Keti Bander Depot is hardly a sale Depot now; it is maintained for checking the enormous quantities of wood landed at Keti Bander for transport to Karachi, Bombay, and Katiawar ports.

44. A statement of timber supplied to the State Railway and other Departments direct by Departmental agency from the forests is given below.

Name of Department.	Babul Bolsters.	Babul Brake Block.	Babul Sleepers.	Babul Logs.
North-Western Railway	1,012	2,990	1,071	...
Karachi Harbour Works	...	...	1,300	...
Gun Carriage Factory, Bombay	...	...	...	445

45. The proposed experimental delivery of 5,000 cheap Babul sleepers to the North-Western Railway alluded to in para. 38 of last year's report nearly ended in a fiasco.

The original agreement was that sleepers of three classes should be tried—1st class prime timber straight sawn true on all four sides—2nd class sound timber sawn on two sides straight horizontally but not necessarily straight vertically, axe trimmed on two sides—3rd class half round, the stems of trees of proper girth sawn in two and outside slabs with beds made for chairs.

The 3rd class were to be in larger proportion than either of the other kind. The sleepers were cut in accordance with these stipulations and the Manager was asked to depute some one to take delivery of them; in the meanwhile the Manager had added the stipulation that *all* the sleepers must be free of bark and sapwood. Now the majority of the sleepers, the half-round ones, were the trunks of trees sawn in two, the bark of course could be stripped off but a tree that grows with heart-wood on its outer surface has yet to be evolved by nature, consequently the majority of the sleepers were at first rejected, but since then the Railway authorities have consented to take all that will give a thickness of 4½ inches under the chairs where the bed for these is cut out. In the meanwhile a large number of sleepers rejected by the Railway were taken by the Port Engineer, Karachi. It would have been a great pity if the experiment with half-round sleepers had been allowed to fall through. Their great merits are extreme cheapness and abundant supply.

46. The quantity of timber cut departmentally and disposed of in the forest is given below. Operations under this head are unimportant.

Division.	Timber. C. ft.	Bhan Posts. No.	Bhan rafters. No.	Jhau rafters. No.	Kirrir rafters. No.	Babul rafters. No.	Babul Posts. No.
Sukkur	1,088	524	2,008	100	...	...	...
Jacobabad	14	...	...	...	...	...	...
Naushahro	1,520	100	2,250	9,375	800	...	37
Hyderabad	2,587	200	1,640	...	...	...	...
Jerruck	1,092	...	...	1,400	...	...	...
Total	6,301	824	5,898	10,875	800	...	37

47. The following statement shows the quantity of firewood supplied to the State Railway, other Departments, and public bodies during the year under report and the previous year :—

To whom supplied.	Firewood in Maunds.	
	1885-86.	1886-87.
North-Western Railway	12,83,220	19,40,425
Sind Railway	20,000	...
Commissioner's Steamers	9,138	13,281
Indus Ferry Steamers	2,10,195	2,11,738
River Conservancy Department	5,818	6,583
Public Works Department	169	125
Karachi Harbour Works	43,684	54,221
Commissariat Department	25,193	28,077
Hyderabad Water Works	30,175	42,500
Sukkur Municipality	4,000	1,800
Hyderabad Jail	2,765	2,578
Government Farm, Hyderabad	6,100	6,500
Total	16,40,457	23,07,828

The quantities are according to indent, and the arrangements made for delivering worked smoothly.

48. The quantity of firewood exported to Bombay and Kathiawar ports is smaller than it was last year, but this is due to the fact that the man who

took the contract for exporting wood, also has the contract for supplying the Harbour Works in Karachi and the Commissariat Department, and as there was a difficulty in getting boats, &c., he could not get enough for both Karachi and Bombay, he devoted his attention chiefly to the former. His Bombay contract is from November 1886 to October 1887, and he hopes to export the full quantity of 3,00,000 cubic feet before the expiry of his contract. He will probably fulfil his contract as he is liable for the royalty on all the wood short of 3,00,000 cubic feet he fails to export, and the Contractor who preceded him forfeited Rs. 506 for failing to remove the full quantity he had undertaken to export.

49. A comparative statement for two years of the total quantity of firewood and charcoal cut or manufactured is given below :—

Name of Division.	Firewood in Maunds.		Charcoal in Maunds.	
	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	1,075	3,941	...	...
Jacobabad	6,300	18,747	...	...
Naushahro	18,331	8,525	1,939	3,675
Hyderabad	7,263	11,207	710	815
Jerruck	1,14,268	1,62,280	14,916	24,838
Total	1,47,237	2,04,700	17,565	29,328

The increase in charcoal is due to the export of that article to Aden and the Persian Gulf.

SECTION 2. REMOVAL OF PRODUCE BY PURCHASERS.

50. Under this head timber operations are not very extensive for reasons already explained in former reports.

51. The value of timber removed by purchasers is given below for two years :—

Name of Division.	Timber. Value.	
	1885-86.	1886-87.
	Rs.	Rs.
Sukkur	2,053	2,518
Jacobabad	2,710	1,723
Naushahro	170	405
Hyderabad	439	526
Jerruck	345	590
Total	5,717	5,762

52. The following table gives value of firewood removed by purchasers other than those who remove it under the Ghat or permit-pass system which is given separately :—

Name of Division.	Firewood. Value.	
	1885-86.	1886-87.
	Rs.	Rs.
Sukkur	767	674
Jacobabad	910	92
Naushahro	157	70
Hyderabad	1,865	1,525
Jerruck	1,294	344
Total	4,993	2,705

The above is wood removed from the forests for lime and brick-burning.

53. The receipts at the different Ghats or Nakas under the permit-pass system for two years is given below :—

Division.	Name of Ghat.	Revenue realized. 1885-86.	1886-87.
		Rs.	Rs.
Sukkur	Rahuja, Jhali, Rohri	10,329	10,275
Jacobabad	Sadar, Stewart, Khura	12,907	14,786
Naushahro	Larkana	2,765	2,748
Hyderabad	New Fuleli, Old Fuleli, Hajipur	709	842
	Total	26,710	28,651

The increase is due to greater demand.

Section 3. Free Grants.

54. Free grants of timber to the value of Rs. 1,006 were made to poor agriculturists, and timber and firewood to the value of Rs. 384-0-0 was removed gratis by Public Works Department Contractors under the authority of Government Resolution No. 2432 of 7th May 1879.

Section 4. Summary of produce.

55. The following is a comparative statement for two years of the timber cut and removed from the forests by Departmental Agency including that brought to Depôts :—

Division.	Timber of all kinds in cubic feet.		Posts. No.		Rafters. No.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	5,193	7,661	1,082	6,124	8,774	29,298
Jacobabad	248	39	386	6,795	3,229	12,280
Naushahro	2,150	1,777	4,172	1,750	65,536	21,509
Hyderabad	19,803	19,229	4,907	5,919	1,05,042	1,05,991
Jerruck	9,150	9,750	2,066	420	1,417	1,473
Total	36,544	38,456	12,613	21,008	1,83,998	1,70,551

56. The quantity of timber cut and removed by purchasers is given below :—

Division.	Timber of all kinds in cubic feet.		Posts. No.		Rafters.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	2,483	1,988	147	753	47,266	53,522
Jacobabad	2,359	1,571	3,670	2,306	68,872	48,712
Naushahro	384	2,465	8	...	3,392	5,842
Hyderabad	340	927	1,235	600	2,375	7,791
Jerruck	386	1,536	315	274	223	7,220
Total	5,952	8,487	5,375	3,933	1,22,128	1,23,087

57. The total yield in timber of each Division is as under for two years :—

Division.	Timber of all kinds in cubic feet.		Posts. No.		Rafters. No.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	7,676	9,649	1,229	6,877	56,040	82,820
Jacobabad	2,607	1,610	4,056	9,101	72,101	60,992
Naushahro	2,534	4,242	4,180	1,750	68,928	27,351
Hyderabad	20,143	20,156	6,142	6,519	1,07,417	1,13,782
Jerruck	9,536	11,286	2,381	694	1,640	8,693
Total	42,496	46,943	17,988	24,941	3,06,126	2,93,638

58. The total yield in firewood of each Division is given below :—

Division.	Sold at Depots.		Sold on edge of Forests.		Supplied to Departments.		Removed by Purchasers.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	1,195	6,112	1,075	3,941	7,22,682	8,94,598	1,68,317	1,65,205
Jacobabad	1,110	40	6,300	19,447	1,58,463	4,27,071	1,80,675	2,16,463
Naushahro	3,300	2,803	18,331	8,525	3,04,185	4,31,147	54,375	45,190
Hyderabad	1,64,560	1,60,082	7,263	11,207	3,35,966	3,84,724	37,084	35,242
Jerruck	11,151	9,297	1,14,268	1,62,280	1,19,161	1,70,288	23,059	5,114
Total	1,81,316	1,78,334	1,47,237	2,05,400	16,40,457	23,07,828	4,63,510	4,67,214

59. The total yield of charcoal of each Division is as under :—

Division.	Charcoal in Maunds.	
	1885-86.	1886-87.
Sukkur	.....	33
Jacobabad	1,653	2,736
Naushahro	1,939	3,675
Hyderabad	4,866	2,691
Jerruck	17,117	26,608
Total	25,575	35,746

60. The following is the total yield of the whole Circle during the year under report and the previous year :—

Timber	1885-86	C. ft.	37,368
	1886-87		46,943
Sleepers	1885-86	No.	1,389
	1886-87		2,388
Posts	1885-86	No.	17,988
	1886-87		24,941
Rafters	1885-86	No.	3,06,126
	1886-87		2,93,638
Firewood	1885-86	Mds.	23,50,846
	1886-87		31,58,776
Charcoal	1885-86	Mds.	25,575
	1886-87		35,746

61. The realizations bythe sale of farms for removal of Minor produce and the right of fishing in Forest waters are given below for each Division during the last two years :—

Division.	Babul pods.		Lac.		Munj reed and Sar grass.		Fishery.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
Sukkur	145	247	...	...	345	449	690	821
Jacobabad	...	...	...	...	71	134	105	444
Naushahro	1,229	2,037	...	...	244	312	96	390
Hyderabad	4,866	6,944	935	672	...	...	436	493
Jerruck	2,422	2,803	...	...	...	100	220	244
Total	8,662	11,031	935	672	660	995	1,547	2,392

62. The area under cereal cultivation in each Division and the amount realized by assessment is as under. The Rabi cultivation is nearly all fodder crops on fresh alluvial accretions to the forests raised by cattle-breeders and others living in or on the edge of the forests.

Division.	Area under cultivation.				Amount realized by assessment.			
	Kharif.		Rabi.		Kharif.		Rabi.	
	1885-86.	1886-87.	1885-86	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Sukkur	529	525	2,150	1,859	1,223	1,275	6,121	6,356
Jacobabad	...	...	19	16	...	...	90	78
Naushahro	230	444	1,682	2,145	588	1,353	6,755	6,351
Hyderabad	336	287	583	1,074	867	720	1,507	3,175
Jerruck	306	1,137	158	350	787	3,055	317	682
Total	1,401	2,393	4,592	5,444	3,465	6,403	14,790	16,642

63. A comparative statement for two years of the realizations from grazing fees is given below for each Division :—

Division.	Grazing fees.	
	1885-86.	1886-87.
	Rs.	Rs.
Sukkur	12,510	11,741
Jacobabad	1,404	2,206
Naushahro	6,957	7,705
Hyderabad	13,839	13,611
Jerruck	10,954	10,604
Total	45,664	45,867

Section 5. Export of Forest produce.

64. The Gun Carriage Factory in Bombay was supplied with 8,238 cubic feet of Babul timber. The export of firewood to Bombay and Katiawar ports was 43,746 Bengal maunds. The larger quantity of charcoal sold from the forests would show that its export is on the increase, but the figures showing the actual quantity of forest made charcoal exported cannot be given as delivery of the charcoal by the purchaser is taken in the forest and the general export includes charcoal made outside forest limits by private holders of forest land and by those who make charcoal of trees removed from canal banks.

65 Another attempt is being made to get Babul bark into the English Market.

Chapter V. Financial Results.

66. A comparative statement of the total receipts and expenditure during the last two years is given below :—

	Actuals for 1885-86.	Actuals for 1886-87.	Increase.	Decrease.
	Rs.	Rs.	Rs.	
Receipts.....	5,36,874	6,85,782	1,48,908	...
Expenditure—				
A. Conservency and works	2,96,893	4,04,090	1,07,197	...
B. Establishment	1,05,767	1,13,613	7,846	...
Total Expenditure.....	4,02,660	5,17,703	1,15,043	...
Net Revenue...	1,34,214	1,68,079	33,865	...

The revenue both gross and net is the largest ever made in the Sind Circle, but the expenditure as compared to receipts is far larger than in other Circles, but the reason for this is very easy to show. The chief product of the other two Circles is timber, an article valuable in itself, and it is either sold standing to the purchaser or is cut departmentally and sold on the edge of the forest so that the expenses of working the forests are reduced to a minimum. The chief product of the Sind forests is firewood for which there is practically no demand in the Forests; before it can be disposed of it has to be cut, carted or carried on pack-animals and boated from distances ranging from seven to over a hundred miles—forty being a very common distance for wood to be carried before it can be delivered at the place of consumption. Firewood moreover is cheaper in Sind than it is in any other district I know of in India—so that it is only by studying the convenience of large consumers and by strict economy in working charges and by most careful arrangements in placing the wood in suitable localities on the bank of the river, side-channels and canals, for boating during the different stages in the rise and fall of the river that it is possible to show a profit over working expenses. The Railway authorities only consent to burn it so long as they can get it at about half the price of its equivalent in coal and the Port Engineer has been careful to inform me that there is very little profit in the use of wood fuel over coal and rejected a very large quantity of wood as not *dry enough* that had been cut six months.

67. In reviewing last year's Forest Administration Reports Government took exception to the large expenditure in Sind as compared with net receipts. I would submit as I have already shown that a very large profit from forests worked chiefly for firewood is impossible, and that to get a revenue at all out of them in the absence of demand for firewood in the immediate neighbourhood of the forests a large expenditure is absolutely necessary for the carriage of the wood to places where sale can be found for it. Furthermore, in making comparisons of financial results some regard should be had to the area available as well as the quality of the forest materials which forms the source of revenue in each Circle. Taken in this way the comparison would be in favour of Sind—See figures for 1885-86.

	Area in Acres.	Net revenue.	Yield per acre.
		Rs.	
Northern Circle...	51,39,029	3,73,657	0 1 2
Southern Circle...	32,47,682	10,69,528	0 5 1
Sind Circle.....	4,30,926	1,34,214	0 4 11

The revenue of the Southern Circle was extraordinarily high during this year owing to the local demand for sleepers, otherwise the net Sind revenue per acre would have been the largest, and would be so in ordinary years. That Sind with its wretched jungles can yield results that in any way compare with the Southern Circle with its magnificent Teak forests should entitle the Forest management to some small credit for the efforts made to extract a revenue from those jungles.

General Remarks.

68. With the exception of the great damage done by forest fires in Upper Sind and the loss of area of good forest land in the same district by erosion, the season has been an uneventful though a prosperous one.

69. I began my tour in Lower Sind and extended it to the Kashmor Taluka in the Upper Sind Frontier Districts.

This taluka is very sparsely populated and the population is largely nomadic. All the part of it lying along the river to a depth of some 10 to 12 miles is practically a jungle with clearings in it. Much of the jungle is good Bhan forest and the greater part of the rest valuable as a source of fuel supply for the Sukkur Main Station. The distances are great, ranging from thirty-five to fifty-five miles, but as the wood has to be boated down river it is just possible to deliver it at Sukkur within the maximum rate the Department can afford to pay.

The District has not been surveyed and there are no village maps available. For this and other reasons forest demarcation is not at present feasible but there is a Protective Establishment consisting of a Forester and six Forest Guards who were placed some years ago in charge of the jungles in the taluka pending demarcation. By arrangement with the Deputy Commissioner this Establishment is to remain but its attention is to be confined to four villages and two Kachas on which all the principal forest is situated.

70 I was able to personally inspect the greater part of the area of every Division and can speak very highly of the excellent care taken of the forests and the absence of lopping by goatherds which used to be so common in the lately acquired Reserves.

71. I very thoroughly inspected a considerable part of the area in Upper Sind which came under the axe when the Department first began to supply the Railway with fuel. In the compartments that have not suffered from fire the reproduction is very satisfactory and in two or three years' time they will be ready to work again, but in others the growth has been once or often destroyed by fire and though the Kandi has coppiced again after each fire the progress of the compartments towards maturity has been much retarded.

72. I inspected the books, accounts and records of all the Divisional Offices and found them in a satisfactory state.

73. All the Divisional Forest Officers have worked well and carried out their duties with zeal and intelligence.

Conservator's Office,
Hyderabad,
10*th September* 1887.

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forests Sind Circle.

ANNUAL FORM No. 49.

ANNUAL FORM No.

FOREST DEPARTMENT BOMBAY,

Area of Reserved

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886.		Added during the year.
			Acres.	Equivalent in square miles.	Acres.
Sukkur...	Shikarpur.	Rasti	8,129	13	...
		Jamshero	5,159	8	100
		Daresh	2,025	3	...
		Ubauro	3,150	5	...
		Mirpur	6,511	10	...
		Raharki	...	...	1,654
		Reti	...	...	2,388
		Rangu	...	...	972
		Narli	...	...	1,376
		Bohab	9,485	15	200
		Budh	1,217	2	...
		Sadhuja	14,099	22	500
		Shahpur	10,215	16	...
		Panwari	487	1	200
		Hussenbeli	3,407	5	...
		Azizpur	880	1	...
		Ding	1,518	2	...
		Ghotki	4,200	7	...
		Syedpur	7,647	12	...
		Rohri	8,302	13	...
		Kote Shahu	150	...	...
		Abad	5,579	9	150
		Kadirdini Bindi	2,306	4	...
		Khiabindi	3,118	5	200
		Shah	13,283	21	1,000
		Bindi Dhareja	6,954	11	700
		Kadrapur	2,485	4	...
		Total...	1,20,306	189	9,440

Hyderabad,
10th September 1887.

100	8,029	13		Lost by action of the river.
200	5,059	8		Gained and lost by do.
...	2,025	3		
...	3,150	5		
...	6,511	10		
...	1,654	3	No. 6226 of 31st August 1886.	
...	2,388	4		
...	972	2		
...	1,376	2		
500	9,185	14		Do. Do. Do.
...	1,217	2		
1,000	13,599	21		Do. Do. Do.
500	9,715	15		Lost by action of the river.
50	637	1		Gained and lost by do.
...	3.407	5		
...	880	1		
...	1,518	2		
...	4,200	7		
...	7,647	12		
...	8,302	13		
140	1	...		
300	5,429	8		Do. Do. Do.
...	2,306	4		
...	3,318	5		Gained by do. do.
200	14,083	22		Gained and lost by do.
200	7,454	12		
...	2,485	4		
3,199	1,26,547	198		

Jacobabad.	Shikarpur—*continued.*	Andaldal	11,993	19	300
		Bagirji	13,920	22	500
		Raiswah	...	...	905
	Upper Sind Frontier.	Abad	1,127	2	....
		Mehrabpur	1,457	2	...
		Dilawarpur	1,439	2	...
		Milkiat Sircar	910	1	...
		Bakapur	8,359	13	...
		Dilmurad	1,055	2	...
		Zangipur	5,359	8	...
		Sarki	3,706	6	...
		Beluchabad	1,100	2	...
		Korar	887	1	...
		Total	51,312	80	1,705

50	12,242	19		Gained and lost by action of the river.
...	14,420	23		Gained by do. do.
...	905	1	No. 368 of 15th January 1887.	
...	1,127	2		
...	1,457	2		
...	1,439	2		
...	910	1		
...	8,359	13		
...	1,055	2		
...	5,359	8		
...	3,706	6		
...	1,100	2		
...	887	1		
50	52,967	82		

Naushahro.	Shikarpur.	Dosu	4,633	7	...
		Keti Ubhuro	5,575	9	...
		Kanuri	4,030	6	...
		Kasim Shah	2,107	3	...
		Nari	1,522	2	...
		Dangar	3,685	6	...
		Magsi	1,383	2	...
		Sharifpur	1,027	2	...
		Bahman	1,547	2	...
		Naoabad	2,205	3	...
		Phati Bilawal	711	1	...
	Hyderabad	Bhour	10,039	16	...
		Mohbat Dero	8,030	13	...
		Samtia	3,290	5	...
		Kamal Dero	1,365	2	...
		Bhorti	10,785	17	...
		Dalipota	867	1	...
		Khairo Dero	13,173	21	350
		Lalia	4,192	7	...
	Karachi.	Karampur	2,924	5	...
		Baghban	...	...	1,947
		Phaka	...	...	2,207
		Pipri	...	...	925
		Bhan	...	...	1,138
		Kalubori	...	...	748
		Total...	83,090	130	7,315

...	4,633	7		
...	5,575	9		
...	4,030	6		
...	2,107	3		
...	1,522	2		
...	3,685	6		
...	1,383	2		
...	1,027	2		
...	1,547	2		
...	2,205	3		
...	711	1		
200	9,839	15		Lost by action of the river.
250	7,780	12		Do. Do. Do.
...	3,290	5		
...	1,365	2		
285	10,500	16		Do. Do. Do.
...	867	1		
...	13,523	21		Gained by do. do.
30	4,162	7		Lost by do. do.
20	2,904	5		Do. Do. Do.
...	1,947	3		
...	2,207	3	No. 2967 of 19th April 1886.	
...	925	1		
...	1,138	2		
...	748	1	No. 6453 of 13th Septr. 1886.	
785	89,620	137		

Hyderabad.	Hyderabad	Lakhat	6,130	10	...
		Nasri	1,756	3	500
		Mad	2,692	4	...
		Mahrábpur	3,838	6	100
		Mari	15,203	24	600
		Pai	5,130	8	...
		Keti Jurio	2,025	3	...
		Rano	1,627	3	...
		Nurketi	3,418	5	...
		Kacho Nurketi	3,641	6	...
		Bhanote	841	1	...
		Khanote	8,666	14	300
		Khebrani	760	1	...
		Sekliat	2,067	3	...
		Jakhri	1,926	3	...
		Matiari	5,354	8	...
		Ghali	3,041	5	1,000
		Miani	4,917	8	...
		Kathri	756	1	...
		Gundi	2,150	3	...
		Muhammad Khan	181	...	...
		Jam Shoro	292	...	...
		Shah Makai	411	1	...
		Keti Mahrani	5,523	9	...
	Karachi.	Gidarji	...	...	855
		Butho	7,848	12	...
		Manjhand	1,539	2	...
		Unarpur	10,427	16	...
		Messa	...	...	308
		Ghagh	1,296	2	...
		Karokho	1,701	3	...
		Total...	1,05,156	164	3,663

...	6,130	10				
...	2,256	4		Gained by action of the river.		
...	2,692	4				
...	3,938	6		Do.	Do.	Do.
...	15,803	25		Do.	Do.	Do.
...	5,130	8				
...	2,025	3				
...	1,627	3				
...	3,418	5				
...	3,641	6				
...	841	1				
...	8,966	14		Do.	Do.	Do.
...	760	1				
...	2,067	3				
...	1,926	3				
...	5,354	8				
...	4,041	6		Do.	Do.	Do.
...	4,917	8				
...	756	1				
...	2,150	3				
...	181	...				
...	292	...				
...	411	1				
20	5,503	9		Lost by	do.	do.
...	855	1	No. 3241 of 3rd May 1886.			
...	7,848	12				
...	1,539	2				
66	10,361	16		Do.	Do.	Do
...	308	...	No. 8903 of 21st December 1886.			
...	1,296	2				
...	1,701	3				
86	1,08,733	168				

Jerruck.	Karachi—*continued.*	Viran	8,942	14	...
		Sonda	2,114	3	...
		Hilaya	2,898	5	...
		Lalang	5,051	8	50
		Shah Lanko	1,690	3	...
		Garko	4,079	6	...
		Penah	6,169	10	...
		Susati ...	39	...	...
		Khirsar	1,380	2	...
		Huderani	5,511	9	...
		Surjani	1,387	2	...
		Ganj	2,153	3	...
		Hazari	2,483	4	...
		Makbulo	496	1	...
		Laikpur	7,406	12	...
		Khadi	4,300	7	...
		Phatah	233	...	100
		Mulchand	5,454	9	...
		Malir	24	...	...
	Hyderabad	Husri	420	1	...
		Khatro	416	1	...
		Khathar	2,935	5	40
		Katiar	952	1	...
		Khirdahi	290	...	...
		Tikhur	1,709	3	...
		Khokhar	1,556	2	...
		Bud-ka-Takar	975	2	...
		Total...	71,062	113	190

SIND CIRCLE.

Forests, 1886-87.

Excluded or transferred to other heads.	Area on 31st March 1887.		No. and date of Notification of addition or transfer.	REMARKS.
Acres.	Acres.	Equivalent in square miles.		
580	8,362	13		Lost by action of the river.
...	2,114	3		
...	2,898	5		
200	4,901	8		Gained and lost by do.
...	1,690	3		
...	4,079	6		
...	6,169	10		
...	39	...		
...	1,380	2		
...	5,511	9		
...	1,387	2		
300	1,853	3		
...	2,483	4		
...	496	1		
...	7,406	12		
250	4,050	6		Lost by do. do.
20	313	...		Gained and lost by do.
...	5,454	9		
...	24	...		
...	420	1		
...	416	1		
...	2,975	5	No. 7535 of 25th October 1886.	
...	952	1		
...	290	...		
...	1,709	3		
...	1,556	2		
...	975	2		
1,350	69,902	111		

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Prosecution for breaches of Forest Rules during 1886-87.

Forest Division and Civil District.	Cases pending from 1886-87.	New Cases of the Year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Upper Sind Frontier District.														
Jacobabad Division	...	...	14	...	...	14	14	9	14	5	5	14	19	...
Shikarpur District.														
Jacobabad Division	7	...	3	...	1	4	11	4	5	7	7	11	12	...
Sukkur „	8	1	10	5	4	20	28	12	17	13	18	25	34	3
Naushahro „	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hyderabad District.														
Naushahro Division	6	...	3	...	...	3	9	8	11	...	...	8	11	1
Hyderabad „	...	...	10	...	1	11	11	10	22	1	1	11	23	...
Jerruck „	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Karachi District.														
Naushahro Division	...	...	1	...	...	1	1	1	2	...	...	1	2	...
Hyderabad „	...	...	4	...	...	4	4	2	5	2	3	4	8	...
Jerruck „	3	...	1	...	...	1	4	1	3	3	23	4	26	...
Total...	24	1	46	5	6	58	82	47	79	31	57	78	136	4

Hyderabad,
10*th September* 1887

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 51.

FORM No. 51.

FOREST DEPARTMENT, SIND CIRCLE.

Area of Forest Tracts protected from fire during the dry season 1887, to accompany Report for 1886-87.

Division.	Forest Tracts.	Year in which commenced.	Area actually protected up to 15th June 1886.	During dry season for 1887.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Area actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rupees.	
Sukkur	Mirpur	Not known.	24,429	31,164	2,384	28,780		As all the Forests are equally protected against fire, the entire area of the Sind Forests has been given in column "area" attempted to be protected.
	Ghotki		3,660	4,200	400	3,800		
	Sadhuja		55,595	56,107	8,204	47,903		
	Abad		33,475	35,076	41	35,035		
Jacobabad	Naushahro	Not known.	25,720	27,568	90	27,478		
	Jacobabad	1885-86.	13,290	13,292	.....	13,292		
	Thul		12,107	12,107	.....	12,107		
Naushahro	Kandiaro	Not known.	33,964	33,641	390	33,251		
	Sehwan		20,111	27,554	16	27,538		
	Bakrani		19,728	19,728	476	19,252		
	Tigir		8,697	8,697	.....	8,697		

Hyderabad	Rano	Not known.	46,101	47,501	335	47,166	
	Miani		29,803	31,118	224	30,894	
	Hyderabad		703	703	.....	703	
	Kotri		7,224	7,204	.....	7,204	
	Unarpur		21,080	22,207	20	22,187	
Jerruck	Viran		24,774	24,044	.....	24,041	
	Shahbandar		36,978	36,541	153	36,388	
	Katiar		9,253	9,293	.....	9,293	
	Karachi	1882-83.	24	24	.....	24	
		Total.....	4,26,736	4,47,769	12,733	4,35,036	

Conservater Office,
Hyderabad, 15*th September* 1887.

J. G. MACRAE, Lieut-Colonel,
Conservater of Forests, Sind Circle.

	Rohri	...	25	...	25	...	60	
	Syedpur	...	5	...	5	...	54	
	Chanjni	...	5	...	5	...	30	
	Saliani	...	20	...	20	...	52	
	Adilpur	...	35	...	35	...	100	
	Total...	620	202	620	202	...	577	
Naushahro	Kamal Dero	500	...	500	...	...	...	500 acres opened to grazing.
	Bhour	713	24	713	24	...	...	713 acres do. do.
	Samtia	150	...	150	...	...	...	150 acres do. do.
	Mohbat Dero	30	750	80	700	...	...	30 acres do. do. 50 acres killed by frost.
	Bhorti	200	290	200	290	...	...	230 acres opened to grazing.
	Dalipota	50	68	118	...	...	...	50 acres do. do. 60 acres killed by frost.
	Khairo Dero	310	...	310	...	...	...	310 opened to grazing.
	Lalia	150	...	150	...	...	...	150 acres do. do.
	Karampur	15	25	15	25	...	...	15 acres do. do.
	Keti Lalia	15	25	15	25	...	...	15 acres do. do.
	Sharifpur	...	45	...	45	...	...	
	Total...	2,133	1,227	2,251	1,109	...	...	

Hyderabad	Lakhat	12	...	...	12	...	...	
	Nasri	265	...	...	265	...	...	
	Mahrabpur	186	30	...	216	...	...	
	Mari	2,080	640	...	2,720	...	...	
	Keti Jurio	...	640	...	640	...	...	
	Nurketi	480	640	...	1,120	...	...	
	Khanoto	220	...	...	220	...	...	
	Jakhri	140	...	...	140	...	...	
	Matiari	2,000	...	...	2,000	...	...	
	Miani	2,598	...	...	2,598	...	...	
	Muhammad Khan	181	...	...	181	...	...	
	Shah Makai	43	...	...	43	...	...	
	Jamshoro.....	23	...	...	23	...	...	
	Butto	1,280	...	...	1,280	...	...	
	Manjhand	108	...	...	108	...	...	
	Unarpur	3,150	...	...	3,150	...	...	
	Total...	12,766	1,950	...	14,716	...	...	
Jerruck	Mulchand	144	70	...	214	...	...	
	Khadi	901	1,020	...	1,921	...	...	
	Penah.....	13	...	...	13	...	...	
	Ganj	15	...	...	15	...	...	
	Laikpur	160	160	160	160	...	...	Opened to grazing under the new plan of operation.

Viran	655	80	...	735	...	...	
Garko	436	...	...	436	...	...	
Shah Lanko	100	...	...	100	...	...	
Hilaya	100	65	...	165	...	...	
Sonda	...	55	...	55	...	...	
Tikhur	8	...	8	...	...	...	Opened to grazing.
Khathar	260	245	...	505	...	...	
Katiar	...	12	...	12	...	...	
Bud-ka-Takar	...	82	...	82	...	...	
Total...	2,792	1,789	168	4,413	....	....	
Total Regular Plantations	167	17	...	184			
Total Cultural Operations...	18,311	5,168	3,039	20,440			

Conservator's Office,
Hyderabad,
10*th September* 1887.

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

FORM No. 54.

FOREST DEPARTMENT, SIND CIRCLE.

Outturn of Timber and Firewood during the year 1886-87.

Division.	Description of Material.	Out-turn in Cubic Feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government Agent.	Purchasers.	Free Grants.	Right Holders.	
Sukkur	Babul logs	7,967	...	...	7,967	7,437	262	73	...	
	Bahan logs and dasas	3,994	...	...	3,994	2,105	877	228	...	
	Tali logs and planks	220	...	...	220	79	14	...	...	
	Babul post	710	...	...	710	481	...	...	...	
	Bahan posts	7,028	...	...	7,028	3,315	467	...	...	
	Bahan rafters	28,681	...	...	28,681	13,740	3,252	178	...	
	Jhau rafters	...	25,885	...	25,885	59	23,354	2,472	...	
	Babul cart axles	...	257	...	257	1,046	5	...	...	794 C. ft. removed out of last year's out-turn.
	Sleepers	3,288	...	...	3,288	3,340	...	...	...	52 C. ft. Do. Do. Do.
	Tali pieces	...	...	49	49	37	12	...	...	
	Deodar logs	108	...	...	108	108	...	...	...	
	Jhau logs	675	...	...	675	...	307	368	...	
	Kandi logs	716	...	...	716	...	516	200	...	
	Kirir rafters	150	...	...	150	...	150	...	...	
	Charcoal	...	891	...	891	...	891	...	...	
	Firewood	...	22,17,259	337	22,17,596	11,34,303	11,15,133	432	...	32,272 C. ft. Do. Do. Do.
	Loco. fuel	...	33,57,847	23,125	33,80,972	36,82,990	43,714	40,614	...	3,86,346 C. ft. Do. Do. Do.
	Total	53,537	56,02,139	23,511	56,79,187	48,49,040	11,88,954	44,565	...	
Jacobabad	Bahan timber	325	...	...	325	22	249	54	...	
	Babul timber	681	...	...	681	14	681	...	...	14 C. ft. Do. Do. Do.
	Asri timber	155	...	...	155	...	155	...	...	
	Kandi timber	...	376	...	376	3	376	...	...	3 C. ft. Do. Do. Do.

	Jhau timber	...	57	...	57	...	57	...	...				
	Khabar timber	...	36	...	36	...	36	...	...				
	Bahan posts	4,320	...	...	4,320	4,082	312	...	...	74 C. ft.	Do.	Do.	Do.
	Asri posts	...	11	...	11	...	11	...	...				
	Babul posts	...	131	...	131	...	131	...	...				
	Jhau posts	...	969	...	969	...	969	...	...				
	Kandi posts	...	7	...	7	...	7	...	...				
	Jhau dasas	...	17	...	17	...	17	...	...				
	Bahan rafters	7,434	...	...	7,434	5,809	475	...	...				
	Jhau rafters	...	23,344	...	23,344	...	23,209	135	...				
	Kandi rafters	...	11	...	11	...	11	...	...				
	Kirir rafters	...	385	...	385	...	385	...	...				
	Khabar rafters	...	6	...	6	...	6	...	...				
	Babul rafters	...	331	...	331	331	...	...	...				
	Firewood	...	16,42,342	...	16,42,342	1,88,472	14,61,126	...	...	7,256 C. ft.	Do.	Do.	Do.
	Loco. fuel	...	18,51,877	...	18,51,877	20,65,679	...	...	...	2,13,802 C. ft.	Do.	Do.	Do.
	Charcoal	...	73,872	...	73,872	...	73,872	...	...				
	Total...	12,915	35,93,772	...	36,06,687	22,64,412	15,62 085	189	...				
Naushahro	Babul logs	3,812	...	...	3,812	1,582	2,437	32	...	239 C. ft.	Do.	Do.	Do.
	Bahan logs	206	...	...	206	655	20	...	...	409 C. ft.	Do.	Do.	Do.
	Kandi logs	97	...	...	97	97	8	...	...	8 C. ft.	Do.	Do.	Do.
	Kandi poles	30	...	...	30	...	...	30	...				
	Babul posts	23	...	...	23	23	...	...	...				

Naushahro—*continued*.....	Bahan posts	134	...	...	134	1,062	...	...	...	928 C. ft. removed out of last year's out-turn.			
	Bahan rafters	1,925	...	...	1,925	5,667	...	...	...	3,742 C. ft.	Do.	Do.	Do.
	Kirir posts	...	2,201	...	2,201	400	1,801	...	...				
	Jhau posts	...	6,523	...	6,523	4,688	1,120	715	...				
	Firewood	...	4,40,708	...	4,40,708	1,31,369	3,05,033	...	...				
	Loco. fuel	...	21,74,262	...	21,74,262	21,15,065	...	...	...				
	Charcoal	...	21,930	...	21,930	18,375	...	...	...				
	Total...	6,227	26,45,624	...	26,51,851	22,78,983	3,10,419	777	...				
Hyderabad.....	Babul logs.....	15,557	...	...	15,537	24,659	848	1,269	...	11,239 C. ft.	Do.	Do.	Do.
	Bahan logs	79	...	...	79	...	79	...	...				
	Babul bolsters.....	1,575	...	...	1,575	2,943	...	...	...	1,368 C. ft.	Do.	Do.	Do.
	Babul rafters.....	...	...	...	...	68	...	...	...	68 C. ft.	Do.	Do.	Do.
	Babul posts	...	216	...	216	99	...	...	...				
	Bahan posts	3,689	...	...	3,689	2,858	372	...	...				
	Bahan rafters	90,605	...	...	90,605	52,920	2,480	1,100	...				
	Kirir rafters.....	...	150	...	150	...	150	...	...				
	Jhau posts.....	...	3	...	3	713	...	...	...	710 C. ft.	Do.	Do.	Do.
	Jhau rafters	...	1,981	...	1,981	...	1,531	750	...	300 C. ft.	Do.	Do.	Do.
	Jhau bairs.....	...	35	...	35	...	35	...	...				
	Babul brake blocks	1,495	...	...	1,495	1,495	...	...	...				
	Babul slabs	553	...	...	553	882	...	...	...	329 C. ft.	Do.	Do.	Do.
	Babul sleepers	6,430	...	...	6,430	5,430	...	...	...				

	Kirir knees	...	25	...	25	...	...	...	...			
	Babul planks	95	...	...	95	115	...	...	...	20 C. ft.	Do.	Do.	Do.
	Firewood	...	14,10,196	...	14,10,196	11,29,174	2,37,883	...	...				
	Charcoal	...	81,169	...	81,169	90,887	101	...	...	9,819 C. ft.	Do.	Do.	Do.
	Loco. fuel	...	13,65,045	...	13,65,045	14,05,045	...	...	...	40,000 C. ft.	Do.	Do.	Do.
	Total...	1,20,058	28,58,820	...	29,78,878	27,17,294	2,43,479	3,119	...				
Jerruck	Babul beams	8,238	...	...	8,238	8,634	...	...	...	396 C. ft.	Do.	Do.	Do.
	Babul pieces	45	...	...	45	45	...	...	...				
	Babul bolsters	1,884	...	...	1,884	2,000	...	...	...	116 C. ft.	Do.	Do.	Do.
	Babul logs	4,977	...	...	4,977	3,753	1,536	284	...	596 C. ft.	Do.	Do.	Do.
	Jhau rafters	...	4,316	...	4,316	700	3,566	50	...				
	Babul slabs	667	...	...	667	963	...	...	...	296 C. ft.	Do.	Do.	Do.
	Babul knees	56	...	...	56	...	56	...	...				
	Jhau bairs	1	...	...	1	...	1	...	...				
	Babul posts	...	170	...	170	260	170	...	...	260 C. ft.	Do.	Do.	Do.
	Babul rafters	...	44	...	44	39	44	...	...	39 C. ft.	Do.	Do.	Do.
	Firewood	...	9,36,839	...	9,36,839	9,72,331	26,420	...	...	61,912 C. ft.	Do.	Do.	Do.
	Loco. fuel	...	6,31,608	...	6,31,608	5,93,602	4,000	...	...				
	Charcoal	...	8,98,020	...	8,98,020	9,28,598	...	...	...	30,578 C. ft.	Do.	Do.	Do.
	Total...	15,868	24,70,997	...	24,86,865	25,10,925	35,793	334	...				

Conservator's Office,
Hyderabad, 10*th September* 1887.

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

FORM No. 55.

FOREST DEPATMENT, SIND CIRCLE.

Outturn of Minor Forest Produce.

Division,	Description of produce.	Produce removed or utilized.										Remarks.
		By Government agency.		By Purchasers.		By free grants.		By right holders.		Total.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	RESERVED FORESTS.		Rs.		Rs.		Rs.		Rs.		Rs.	
Sukkur	Brushwood	.....	.....	3,819	244	374	24	.....	.....	4,193	268	
	Kanh grass	.....	.....	141	10	353	22	.....	.....	494	32	
	Grass	.....	.....	2,178	136	.....	.....	.....	.....	2,178	136	
	Reed	.....	.....	Contract...	449	.....	.....	.....	.....	.....	449	
	Babul pods	.....	.....	Do.	247	.....	.....	.....	.....	.....	247	
	Tooth brushes	.....	.....	5	5	.....	.....	.....	.....	5	5	
	Grazing fees	.....	.....	.....	11,741	.....	.....	.....	.....	.....	11,741	
	Vegetable and fruit	.....	351	.....	.....	.....	.....	.....	.....	.....	351	
	Total	.....	351	6,143	12,832	727	46	.....	.....	6,870	13,229	
Jacobabad	Kanh grass	.....	.....	154	10	.....	.....	.....	.....	154	10	
	Brush wood	.....	.....	910	57	.....	.....	.....	.....	910	57	
	Reed	.....	.....	Contract...	134	.....	.....	.....	.....	.....	134	
	Grazing fees	.....	.....	.....	2,207	.....	.....	.....	.....	.....	2,207	
	Babul bark	.....	.....	4	1	.....	.....	.....	.....	4	1	
	Chabbar grass	.....	.....	15	1	.....	.....	.....	.....	15	1	
	Total	.....	.....	1,083	2,410	.....	.....	.....	.....	1,083	2,410	
Naushahro	Babul pods	.....	.....	Contract...	2,037	.....	.....	.....	.....	.....	2,037	
	Sar grass	.....	.....	Do.	312	.....	.....	.....	.....	.....	312	

	Berry fruit	.....	.....	.....	14	.....	.....	.....	.....	.....	14
	Babul bark	.....	.....	239	30	.....	.....	.....	.....	239	30
	Babul & Bahan branches	.....	.....	.....	6	.....	.....	.....	.....	.....	6
	Brush wood	50	5	.....	.....	40	2	.....	.....	90	7
	Kank grass	128	12	.....	.....	.....	.....	.....	.....	128	12
	Babul seed	.....	.....	1	1	.....	.....	.....	.....	1	1
	Grazing fees	.....	.....	.....	7,706	.....	.....	.....	.....	.....	7,706
	Total	178	17	240	10,106	40	2	.....	.....	458	10,125
Hyderabad	Brush-wood	.....	.....	547	34	.....	.....	.....	.....	547	34
	Kank grass	.....	.....	199	64	.....	.....	.....	.....	199	64
	Babul bark	28	31	37	4	.....	.....	.....	.....	65	35
	Lac	.....	.....	Contract ...	672	.....	.....	.....	.....	.....	672
	Sar grass	.....	.....	10	1	.....	.....	.....	.....	10	1
	Tooth brushes	.....	.....	Mds. 196	68	.....	.....	.....	.....	196	68
	Babul pods	.....	.....	Contract ...	6,944	.....	.....	.....	.....	.....	6,944
	Grazing fees	.....	.....	.....	13,611	.....	.....	.....	.....	.....	13,611
	Dabb grass	.....	.....	69	4	.....	.....	.....	.....	69	4
	Kank grass mats	323	12	.....	.....	.....	.....	.....	.....	323	12
	Jhau baskets	1,250	408	.....	.....	.....	.....	.....	.....	1,250	408
	Babul seed	149	218	.....	.....	.....	.....	.....	.....	149	218
	Gum	.....	.....	.....	3	.....	.....	.....	.....	.....	3
	Lotus	.....	.....	.....	25	.....	.....	.....	.....	.....	25
	Jhau branches	.....	.....	599	26	.....	.....	.....	.....	599	26
	Total	1,750	669	1,657	21,456	.....	.....	.....	.....	3,407	22,125
Kerruck	Kank grass	50	4	82	5	.....	.....	.....	.....	132	9
	Jhau brush wood	.....	.....	436	27	50	3	.....	.....	486	30
	Potash	.....	.....	148	37	.....	.....	.....	.....	148	37
	Kamah grass	.....	.....	41	3	.....	.....	.....	.....	41	3
	Grazing fees	.....	.....	.....	10,504	.....	.....	.....	.....	.....	10,504
	Fodder grass	.....	.....	Contract ...	100	.....	.....	.....	.....	.....	100
	Fruit	.....	.....	Do.	254	.....	.....	.....	.....	.....	254
	Babul seed	281	3	.....	.....	.....	.....	.....	.....	.....	3
	Babul pods	.....	.....	Contract ...	2,803	.....	.....	.....	.....	.....	2,803
	Total	331	7	707	13,733	50	3	.....	.....	1,088	13,743

Conservator's Office,
Hyderabad, 10*th September* 1887.

J. G. MACRAE, Lieut-Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM 56.

Forest Department.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87-

	Particulars.	Number or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	TIMBER.				
	Balance at commencement of the year.				
	Sale Depot.				
Sukkur Division.	Babul logs	92	1,033	.....	.....
	Bahan	74	409	.....	.....
	Tali logs	37	147	.....	.....
	Tali planks	23	8	.....	.....
	Babul posts	1	.....	.....	.....
	Bahan posts	83	.....	.....	.....
	Bahan rafters	661	.....	.....	.....
	Babul cart axles	2,095	.....	.....	.....
	Babul sleepers	17	.....	.....	.....
	Babul pieces	4	.....	3,087	1,597
	Forest Depots.				
	Bahan logs	1	5	.....	.....
	Babul logs	3	13	.....	.....
	Bahan sleepers	12	.....	16	18
	Sale Depot.				
Jacobabad Division.	Bahan posts	120	.....	.....	.....
	Bahan rafters	200	.....	320	.....
	Forest Depots.				
	Babul logs	2	14	.....	.....
	Deodar logs	1	.....	3	14

Particulars.	Number or quantity.	Cubic feet	Total of each head. No. or quantity.	Total of each head. Cubic feet.
TIMBER.				
Removed by purchasers from Depots.				
Babul logs	1,893	26,321	.....	.....
Bahan logs	252	1,859	.....	.....
Tali logs	14	66	.....	.....
Kandi logs	1	3	.....	.....
Deadar logs	2	108	.....	.....
Tali planks	23	14	.....	.....
Babul brake blocks	2,990	.....	.....	.....
Babul planks	52	.....	.....	.....
Babul rafters	821	.....	.....	.....
Babul cart axles	2,092	.....	.....	.....
Babul posts	1,567	.....	.....	.....
Babul bolsters	765	3,611	.....	.....
Babul pieces	77	.....	.....	.....
Babul outer slabs	737	.....	.....	.....
Babul sleepers	1,360	.....	.....	.....
Bahan Dasas	47	173	.....	.....
Bahan posts	17,430	.....	.....	.....
Bahan rafters	1,49,988	.....	.....	.....
Jhau posts	1,150	.....	1,81,261	32,155
Sold locally.				
Babul logs	944	5,735	.....	.....
Do.	20	.....	.....	.....
Bahan logs	84	468	.....	.....
Kandi logs	103	97	.....	.....
Deodar log	1	.....	.....	.....

	Sale Depots.					
Naushahro Division.	Bahan logs	78	642	.....	.....	
	Bahan posts	1,592	.....	.....	.....	
	Bahan rafters	7,501	.....	9,171	642	
	Forest Depots.					
	Bahan logs	30	.....	.....	.....	
	Babul logs	88	.....	.....	.....	
	Kandi logs	4	8	122	8	
Hyderabad Division.	*Sale Depots.*					
	Babul logs	1,030	12,944	.....	.....	
	Do.	1	.....	.....	.....	
	Babul bolsters	207	975	.....	.....	
	Babul rafters	151	.....	.....	.....	
	Babul outer slabs	728	.....	.....	.....	
	Babul planks	20	.....	.....	.....	
	Babul posts	160	.....	.....	.....	
	Bahan posts	9	.....	.....	.....	
	Bahan rafters	1,020	.....	.....	.....	
	Jhau posts	1,145	.....	4,471	13,912	
	Forest Depots					
	Babul logs	301	1,425	.....	.....	
	Do.	6	.....	.....	.....	
	Babul sleepers	10	.....	.....	.....	
	Babul outer slabs	200	.....	.....	.....	
	Babul planks	5	1	.....	.....	
	Bahan rafters	140	.....	662	1,426	
Jerruck Division.	*Sale Depots.*					
	Babul logs	218	2,515	.....	.....	
	Babul posts	1,858	.....	.....	.....	
	Jhau posts	271	.....	.....	.....	
	Jhau rafters	13	.....	2,360	2,515	

Babul sleepers	522	.....	.....	.....
Babul posts	37	.....	.....	.....
Bahan posts	824	.....	.....	.....
Bahan rafters	5,898	.....	.....	.....
Bahan sleepers	506	.....	.....	.....
Jhau rafters	10,875	.....	.....	.....
Kirir rafters	800	.....	.....	.....
Babul outer slabs	2,964	.....	.....	.....
Babul planks	5	1	23,583	6,301
Converted in Sale Depots.				
Babul logs	5	156	5	156
Used by the Department.				
Babul logs	11	52	.....	.....
Bahan logs	3	17	.....	.....
Bahan rafters	386	.....	400	69
Converted in Forest Depots.				
Babul logs	1,841	13,254	1,841	13,254
Written off.				
Sale Depots.				
Babul bolsters	2	9	2	
Forest Depots.				
Babul logs	15	162	15	162
Transferred from Forest to Sale Depots.				
Bahan logs	1	5	1	

Jermuck Division—*contd.*	*Forest Depots.*				
	Babul logs	144	1,008	.....	.....
	Bahan posts	200	.....	.....	.....
	Babul slabs	535	.....	879	1,008
	Total Balance...	.....	.....	21,091	21,147
	Received from Forests in Sale Depots.				
	Babul logs	1,108	16,051	.....	.....
	Bahan logs	364	2,443	.....	.....
	Tali logs	34	206	.....	.....
	Kandi logs	1	3	.....	.....
	Deodar logs	2	108	.....	.....
	Tali planks	.....	6	.....	.....
	Babul brake blocks	2,990	.....	.....	.....
	Babul cart axles	504	.....	.....	.....
	Babul posts	1,002	.....	.....	.....
	Babul rafters	662	.....	.....	.....
	Babul bolsters	735	3,469	.....	.....
	Babul pieces	73	.....	.....	.....
	Babul sleepers	1,683	.....	.....	.....
	Babul outer slabs	11	.....	.....	.....
	Bahan Dasas	55	186	.....	.....
	Bahan posts	21,030	.....	.....	.....
	Bahan rafters	2,28,002	.....	.....	.....
	Jhau posts	5	.....	.....	.....
	Jhau rafters	1,018	.....	.....	.....
	Kirir knees	50	.....	.....	.....
	Tali pieces	37	.....	2,59,366	22,472
	Received in Forest Depots.				
	Babul logs	2,380	15,930	.....	.....
	Do.	39	.....	.....	.....
	Bahan logs	61	468	.....	.....
	Kandi logs	99	89	.....	.....
	Babul sleepers	312	.....	.....	.....
	Babul posts	37	.....	.....	.....

	Balance at close of the year Sale Depots.				
Sukkur Division.	Babul logs	307	3,228	.....	.....
	Bahan logs	211	1,180	.....	.....
	Tali logs	57	287	.....	.....
	Babul posts	16	.....	.....	.....
	Bahan posts	4,559	.....	.....	.....
	Bahan rafters	17,623	.....	.....	.....
	Babul cart axles	507	.....	.....	.....
	Tali proces	37	.....	.....	.....
	Bahan Dasas	8	13	.....	.....
	Jhau rafters	10	.....	23,335	4,708
	Forest Depots.				
	Babul logs	3	13	.....	.....
	Babul sleepers	290	.....	.....	.....
	Bahan posts...	100	.....	.....	.....
	Bahan rafters	6,060	.....	.....	.....
	Jhau rafters	1,014	.....	7,467	13
Jacobabad Division.	*Sale Depots.*				
	Forest Depots.				
	Bhan rafters	2,500	.....	2,500	.....
Naushahro Division.	*Sale Depots.*				
	Bahan logs	50	438	.....	.....
	Babul sleepers	54	.....	.....	.....
	Bahan posts	95	.....	.....	.....
	Bahan rafters	17	.....	.....	.....
	Jhau rafters	1,000	.....	1,216	438
	Forest Depots.				
	Babul logs	86	.....	.....	.....
	Bahan logs	7	.....	93	.....

	Received in Forest Depots—contd.					
	Bahan posts	924	.....	.....	.....	
	Bahan rafters	14,318	.....	.....	.....	
	Bahan sleepers	784	.....	.....	.....	
	Jhau rafters	11,889	.....	.....	.....	
	Kirir rafters	800	.....	31,643	16,487	
	Received by conversion in Sale Depots.					
	Babul planks	37	.....	.....	.....	
	Received by conversion in Forest Depots.					
	Babul logs	395	1,884	.....	.....	
	Babul sleepers	208	.....	.....	1,884	
	Babul outer slabs	2,429	.....	3,069	.....	
	Total	Timber ...	.....	3,15,169	61,990	
	Firewood, Charcoal, &c.					
	Balance at commencement of the year					
Sukkur Division.	*Sale Depots.*					
	Firewood ... ...Mds.	71,451	.....	.....	.....	
	Babul bark ... ... „	6	.....	71,457	.....	
	Forest Depots.					
	Firewood ... ...Mds.	50	.....	.....	.....	
	Locomotive fuel ... ... „	.....	5,35,375	50	5,35,375	
Jacobabad Division.	*Sale Depots.*					
	Firewood ... ...Mds.	40	.....	40	.....	
	Forest Depots.					
	Firewood ... ...Mds.	400	.....	.....	.....	
	Locomotive fuel ... ... „	.....	2,51,777	400	2,51,777	

Hyderabad Division.	*Sale Depots.*					
	Babul logs	50	691	.....	.....	
	Babul bolsters	175	824	.....	.....	
	Babul planks	5	.....	.....	.....	
	Babul outer slabs	2	.....	.....	.....	
	Babul sleepers	286	.....	.....	.....	
	Kirir knees	50	.....	.....	.....	
	Bahan posts	750	.....	.....	.....	
	Bahan rafters	69,370	.....	70,688	1,515	
	Forest Depots.					
	Babul logs	26	125	.....	.....	
	Do.	6	.....	.....	.....	
	Babul sleepers	8	.....	.....	.....	
	Babul outer slabs	200	.....	240	125	
Jerruck Division.	*Sale Depots.*					
	Babul logs	183	2,095	.....	.....	
	Babul posts	1,438	.....	.....	.....	
	Jhau posts					
	Jhau rafters	271	.....	.....	.....	
		13	.....	1,905	2,095	
	Forest Depots.					
	Babul logs	417	985	.....	.....	
	Bahan posts	200	.....	617	985	
	Total Timber...	.....	.....	3,15,169	61,990	
	Removed by purchasers from Sale Depots.					
	Firewood ... ...Mds.	3,47,234	.....	.....	.....	
	Charcoal ... ... „	4,455	.....	.....	.....	
	Locomotive fuel ... ... „	.....	8,91,359	.....	.....	
	Kanh grass mats ... ... „	323	.....	3,52,012	8,91,359	

	Sale Depots.						
Naushahro Division.	*Forest Depots.*						
	Firewood ... ... Mds.....	18,167	.....	.....	.....		
	Locomotive fuel... ... ... „	.....	2,14,478	.....	.....		
	Babul seed... ... ... „	14	.....	18,181	2,14,478		
Hyderabad Division.	*Sale Depots.*						
	Firewood ... ...Mds.....	9,486	.....	.....	.....		
	Charcoal ... ... „	295	.....	9,781	.....		
	Forest Depots.						
	Firewood ... ...Mds.....	18,799	.....	.....	.....		
	Locomotive fuel ... ... „	.....	46,250	18,799	46,250		
Jerruck Division.	*Sale Depots.*						
	Firewood ... ... Mds.....	8,059	.....	.....	.....		
	Charcoal ... ... „	316	.....	.....	.....		
	Locomotive fuel ... ... „	.....	1,989	8,375	1,989		
	Forest Depots.						
	Firewood ... ... Mds.....	39,658	.....	.....	.....		
	Charcoal ... ... „	3,904	.....	.....	.....		
	Locomotive fuel ... ... „	.....	1,13,190	43,562	1,13,190		
	Received from the Forests in Sale Depots.						
	Firewood... ... ... Mds.....	3,58,772	.....	.....	.....		
	Charcoal ... ... „	3,943	.....	.....	.....		
	Locomotive fuel ... ... „	.....	9,00,597	.....	.....		
	Babul seed ... ... „	142	.....	.....	.....		
	Kanh grass mats ... ... „	323	.....	3,63,180	9,00,597		
	Sold locally.						
	Firewood ... ... Mds.....	1,57,654	.....	.....	.....		
	Charcoal ... ... „	29,328	.....	.....	.....		
	Locomotive fuel ... ... „	.....	90,53,654	.....	.....		
	Babul bark ... ... „	28	.....	.....	.....		
	Babul seed ... ... „	369	.....	.....	.....		
	Jhau brushwood ... ... „	104	.....	.....	.....		
	Jhau baskets ... ... „	1,000	.....	.....	.....		
	Kanh grass ... ... bundles.....	50	.....	1,88,533	90,53,654		
	Transferred to other Sale Depots.						
	Firewood... ... ...Mds.....	2,212	.....	2,212	.....		
	Written off Sale Depots.						
	Firewood... ... ...Mds.....	40	.....	40	.....		
	Converted in Forest Depots						
	Firewood... ... ...Mds.....	8,077	.....	8,077	.....		
	Written off Sale Depots.						
	Firewood... ... ...Mds.....	2,323	.....	.....	.....		
	Locomotive fuel ... ... „	.....	24,104	.....	.....		
	Babul seed ... ... „	117	.....	2,440	24,104		
Sukkur Division.	*Balance at close of the year Sale Depots.*						
	Firewood... ... ... Mds.....	64,495	.....	.....	.....		
	Babul bark ... ... „	6	.....	.....	.....		
	Locomotive fuel ... ... „	.....	11,227	64,501	11,227		
	Forest Depots.						
	Firewood... ... ... Mds.....	1,725	.....	.....	.....		
	Locomotive fuel ... ... „	.....	1,37,803	1,725	1,37,803		

Received in Forest Depots.							*Sale Depots.*	.....	.....	.....	.....
Firewood	Mds	1,46,105	.....	.....	.....	Jacobabad Division.	*Forest Depots.*				
Charcoal	„	27,530	.....	.....	.....		Firewood	.....	37,975	.....	37,975
Locomotive fuel		.....	85,20,576	.....	.....		*Sale Depots.*				
Babul bark	Mds	28	.....	.....	.....	Naushahro Division.	Firewood Mds	7,197	.....	7,197	.....
Babul seeds	„	1,472	.....	.....	.....		*Forest Depots.*				
Jhau brushwood	„	104	.....	.....	.....		Firewood Mds	9,021	.....	.....	.....
Jhau baskets		1,000	.....	.....	.....		Locomotive fuel „	.....	2,73,675	.....	.....
Kanh grass	Bundles	50	.....	.....	.....		Charcoal Mds	711	.....	9,732	2,73,675
Kanh grass	„	.....	.....	1,76,289	85,20,576	Hyderabad Division.	*Sale Depots.*				
Received by conversion in Forest Depots.							Firewood Mds	28,654	.....	.....	.....
Charcoal	Mds	1,826	.....	1,826			Charcoal „	6	.....	.....	.....
Received by Transfer from Sale Depots.							Babul seed „	139	.....	28,799	.....
Firewood	Mds	2,212	.....	2,212	.....		*Forest Depots.*				
							Firewood Mds	9,805	.....	.....	.....
							Locomotive fuel „	.....	5,250	9,805	5,250
						Jerruck Division.	*Sale Depots.*				
							Firewood Mds	188	.....	.....	.....
							Charcoal „	93	.....	.....	.....
							Babul seed „	3	.....	284	.....
							Forest Depots.				
							Firewood Mds	34,574	.....	.....	.....
							Locomotive fuel „	.....	1,49,185	.....	.....
							Charcoal „	3,221	.....	.....	.....
							Babul seed „	1,000	.....	38,795	1,49,185
Total		.....	.....	7,14,152	1,05,84,232		Total	.....	.....	7,14,152	1,05,84,232

Hyderabad,

Dated 10th September 1887.

J. G. MACRAE, Lieut-Colonel,

Conservator of Forests, Sind Circle.

FORM No. 57.

FOREST DEPARTMENT, SIND CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1886-87.

	Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Sukkur Division.	*Sale Depôts.*								
	Babul logs	92	1,033	516	307	3,228	1,614	...	...
	Bahan ,,	74	409	204	211	1,180	590	...	...
	Tali ,,	37	147	110	57	287	215	...	...
	Tali planks	23	8	6	...	...	...	...	...
	Babul posts	1	...	...	16	...	6	...	...
	Bahan ,,	83	...	34	4,559	...	1,824	...	...
	Do. rafters	661	...	66	17,623	...	2,115	...	...
	Babul cart axles	2,095	...	210	507	...	81	...	...
	Do. pieces	4	...	2	...	...	...	...	...
	Do. sleepers	17	...	34	...	...	...	...	...
	Tali pieces	...	...	...	37	...	16	...	...
	Bahan dasas	...	...	...	8	13	6	...	...
	Jhau rafters	...	...	...	10	...	1	...	...
	Total Timber...	3,087	1,597	1,182	23,335	4,708	6,470	5,288	...
	Babul logs	3	13	3	3	13	3	...	...
	Bahan ,,	1	5	1	...	...	...	...	...
	Do. sleepers	12	...	12	...	...	...	...	...
	Babul sleepers	...	...	...	290	...	203	...	...
	Bahan posts	...	...	...	100	...	10	...	...
	Do. rafters	...	...	...	6,060	...	606	...	...
	Jhau do.	...	...	...	1,014	...	20	...	...
	Total Timber...	16	18	16	7,467	13	842	826	...
	Firewood Mds.	71,451	...	12,861	64,495	...	11,609	...	...
	Babul bark ,,	6	...	3	6	...	3	...	...
	Locomotive fuel	...	...	...	...	11,227	674	...	...
	Total Firewood...	71,457	...	12,864	64,501	11,227	12,286	...	578
	Forest Depôts.								
	Firewood Mds.	50	...	5	1,725	...	311	...	...
	Locomotive fuel	...	5,35,375	22,260	...	1,37,803	5,789	...	...
	Total Firewood...	50	5,35,375	22,265	1,725	1,37,803	6,100	...	16,165

	Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Jacobabad Division.	*Sale Depôts.*								
	Bahan posts	120	...	40	...	...	...	...	...
	Do. rafters	200	...	24	...	...	...	...	...
	Total Timber...	320	...	64	...	...	...	...	64
	Forest Depôts.								
	Babul logs	2	14	2	...	...	...	...	...
	Deodar „	1	...	1	...	...	...	...	...
	Bahan rafters.....	...	...	...	2,500	...	300	...	...
	Total Timber...	3	14	3	2,500	...	300	297	...
	Sale Depôts.								
	Firewood Mds.	40	...	8	...	...	...	...	...
	Total firewood...	40	...	8	...	...	...	...	8
	Forest Depôts.								
	Firewood Mds.	400	...	72	...	...	...	...	...
	Locomotive fuel.....	....	2,51,777	6,294	...	37,975	1,208	...	...
	Total firewood...	400	2,51,777	6,366	...	37,975	1,208	...	5,158
Naushahro Division.	*Sale Depôts.*								
	Bahan logs	78	642	181	50	438	110	...	...
	Do. posts	1,592	...	177	95	...	15	...	...
	Do. rafters	7,501	...	750	17	...	1	...	...
	Babul sleepers	...	...	...	54	...	89	...	...
	Jhau rafters	...	...	...	1,000	...	35	...	...
	Total Timber...	9,171	642	1,108	1,216	438	250	...	858
	Forest Depôts.								
	Bahan logs	30	...	2	7	...	1	...	...
	Babul do.	88	...	11	86	...	10	...	...
	Kandi do.	4	8	1	...	...	...	...	...
	Total Timber...	122	8	14	93	...	11	...	3
	Sale Depôts.								
	Firewood Mds.	...	...	...	7,197	...	1,439	...	...
	Total...	...	...	...	7,197	...	1,439	1,439	...

	Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Naushahro Division.	*Forest Depôts.*								
	Firewood Mds...	18,167	...	1,709	9,021	...	912	...	...
	Locomotive fuel.....	...	2,14,478	8,144	...	2,73,675	9,499	...	...
	Charcoal Mds...	...	...	...	711	...	284	...	...
	Babul seed ,, ...	14	...	21	...	...	...	...	...
	Total...	18,181	2,14,478	9,874	9,732	2,73,675	10,695	821	...
	Sale Depôts.								
	Babul logs	1,030	12,944	7,686	50	691	519	...	...
	Do.	1	...	10	...	...	...	...	...
	Babul bolsters.....	207	975	964	175	824	603	...	...
	Do. rafters	151	...	39	...	...	...	...	...
	Do. outer slabs ...	728	...	167	2	...	1	...	...
	Do. planks	20	...	10	5	...	3	...	...
	Do. posts.....	160	...	17	...	...	...	...	...
	Bahan ,, ...	9	...	2	750	...	300	...	...
	Do. rafters	1,020	...	100	69,370	...	7,632	...	...
	Jhan posts	1,145	...	115	...	...	...	...	...
	Babul sleepers.....	...	...	...	286	...	644	...	...
	Kirir knees	...	...	...	50	...	3	...	...
	Total...	4,471	13,919	9,110	70,688	1,515	9,705	595	...
Hyderabad Division.	*Forest Depôts.*								
	Babul logs	301	1,425	356	26	125	26	...	...
	Do.	6	...	3	6	...	3	...	...
	Do. sleepers	10	...	10	8	...	18	...	...
	Do. outer slabs ...	200	...	20	200	...	20	...	...
	Do. planks	5	1	...	...	...	...	...	...
	Bahan rafters	140	...	7	...	...	...	...	...
	Total...	662	1,426	396	240	125	67	...	329
	Sale Depôts.								
	Firewood Mds...	9,486	...	1,707	28,654	...	5,158	...	...
	Charcoal ,, ...	295	...	175	6	...	3	...	...
	Babul seed ,, ...	...	...	...	139	...	69	...	...
	Total...	9,781	...	1,882	28,799	...	5,230	3,348	...
	Forest Depôts.								
	Firewood Mds...	18,799	...	1,880	9,805	...	981	...	...
	Charcoal ,, ...	...	...	...	...	...	...	...	...
	Locomotive fuel.....	...	46,250	1,017	...	5,250	115	...	...
	Total...	18,799	46,250	2,897	9,805	5,250	1,096	...	1,801

	Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Jerruck Division.	*Sale Depôts.*								
	Babul logs	218	2,515	2,043	183	2,095	1,309	...	...
	Do. posts.....	1,858	...	240	1,438	...	144	...	...
	Jhau do.	271	...	33	271	...	33	...	...
	Do. rafters	13	...	1	13	...	1	...	...
	Total...	2,360	2,515	2,317	1,905	2,095	1,487	...	830
	Forest Depôts.								
	Babul logs	144	1,008	262	417	985	123	...	...
	Bahan posts	200	...	10	200	...	10	...	...
	Babul slabs.....	535	...	100	...	...	...	...	...
	Total...	879	1,008	372	617	985	133	...	239
	Sale Depôts.								
	Firewood Mds....	8,059	...	1,612	188	...	34	...	...
	Charcoal ,, ...	316	...	160	93	...	47	...	...
	Locomotive fuel.....	...	1,989	368	...	...	...	...	...
	Babul seed Mds...	...	...	...	3	...	2	...	...
	Total...	8,375	1,989	2,140	284	...	83	...	2,057
	Forest Depôts.								
	Firewood Mds.....	39,658	...	4,760	34,574	...	4,149	...	...
	Charcoal ,, ...	3,904	...	1,365	3,221	...	1,160	...	...
	Locomotive fuel.....	...	1,13,190	4,040	...	1,49,185	3,714	...	...
	Babul seed Mds...	...	...	...	1,000	...	500	...	...
	Total...	43,562	1,13,190	10,165	38,795	1,49,185	9,523	...	642

Net Difference against the year Rs. 16,118.

Conservator's Office,
Hyderabad, 10*th September* 1887.

J. G. MACRAE, Lieut.-Colonel,
Conservator of Forest, Sind Circle.

Summary of Revenue and Expenditure of the different Divisions

BUDGET HEADS.	Direction.	Hyderabad Division.
REVENUE.		
I. Timber and other Produce removed from the Forests by Government Agency—		
a. Timber	...	34,066 14 11
b. Firewood and Charcoal	...	87,098 5 8
c. Bamboos	...	...
d. Sandalwood	...	...
e. Grass and other minor produce	...	668 13 3
II. Timber and other Produce removed from the Forests by Consumers or Purchasers—		
a. Timber	...	526 3 3
b. Firewood and Charcoal	...	2,366 15 1
c. Bamboos	...	...
d. Grazing and fodder grass	...	13,610 12 0
e. Other minor produce	...	7,844 14 9
III. Confiscated, Drift and Waif Wood	...	1 0 0
IV. Revenue from Forests not managed by Government—		
a. Duty on Foreign Timber and other forest produce	...	...
b. Revenue from shared and private forests ...	...	...
V. Miscellaneous—		
a. Fines and forfeitures	...	4 0 0
b. Refunds	...	647 8 0
c. Other sources	...	5,054 10 2
Total Revenue.....	...	1,51,890 1 1
EXPENDITURE.		
A. CONSERVANCY AND WORKS.		
I. Timber and other Produce removed from the Forests by Government Agency—		
a. Timber	...	12,329 0 6
b. Firewood and Charcoal	...	61,947 7 6
c. Bamboos	...	...
d. Sandalwood	...	...
e. Grass and other minor produce	...	615 10 7
II. Timber and other Produce removed from the Forests by Consumers or Purchasers	...	1 6 0
III. Confiscated, Drift and Waif Wood	...	...
IV. Revenue from Forests not managed by Government—		
a. Duty on Foreign Timber and other forest produce	...	...
b. Revenue from shared and private forests ...	...	...
V. Rent of Leased Forests and Payments to Shareholders in Forests managed by Government ...	...	...

Jerruck Division.	Jacobabad Division.	Naushahro Division.	Sukkur Division.	Total.
17,251 10 2	4,057 5 1	2,047 9 0	12,243 14 3	69,667 5 5
65,448 0 11	81,991 11 8	84,221 8 9	1,71,632 12 10	4,90,392 7 10
...	...	...	...	...
...	...	...	...	...
6 13 0	...	16 8 6	351 3 5	1,043 6 2
589 7 6	1,723 0 5	405 7 5	2,517 12 11	5,761 15 6
343 9 11	14,242 7 7	2,775 14 0	10,948 10 0	30,677 8 7
...	...	...	...	...
10,603 12 0	2,206 8 0	7,705 9 0	11,740 13 3	45,867 6 3
3,128 10 5	202 11 0	2,400 6 11	1,090 13 6	14,667 8 7
...	19 4 0	4 12 0	105 10 3	130 10 3
...	...	...	...	...
...	...	...	...	...
27 0 0	...	0 8 0	359 3 1	390 11 1
...	27 14 11	...	437 7 7	1,112 14 6
3,890 9 1	522 2 8	7,775 15 4	8,826 14 7	26,070 3 10
1,01,289 9 0	1,04,993 1 4	1,07,354 2 11	2,20,255 3 8	6,85,782 2 0
11,000 2 5	1,561 14 9	1,150 12 10	6,285 2 2	32,327 0 8
42,588 15 8	61,772 2 7	63,997 7 0	1,21,709 7 4	3,52,015 8 1
...	...	...	...	...
...	...	...	...	...
379 9 0	...	6 14 6	1 0 0	1,003 2 1
4 6 0	0 14 0	3 9 0	...	10 3 0
...	...	...	3 10 0	3 10 0
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

BUDGET HEADS.	Direction.	Hyderabad Division.
EXPENDITURE—*(continued).*		
VI. Live Stock, Stores, Tools and Plant—		
a. Purchase of Cattle	...	...
b. Feed and keep of Cattle	...	119 0 0
c. Stores, Tools and Plant	4 6 5	1,369 0 1
VII. Communications and Buildings—		
a. Roads and Bridges	...	...
b. Buildings	...	199 8 4
c. Other Works...	...	...
VIII. Demarcation, Improvement and Extension of Forests—		
a. Demarcation...	...	...
b. Compensation for Land and Rights ...	...	...
c. Surveys and Working Plans	...	166 12 0
d. Plantations	...	1,550 4 3
e. Protection from Fire	...	...
f. Other Works...	...	1,142 13 0
IX. Miscellaneous—		
a. Refunds	...	...
b. Law Charges	...	...
c. Other Charges	...	1 8 0
Total A. Conservancy and Works.....	4 6 5	79,442 6 3
B. Establishments.		
I. Salaries—		
a. Conservators...	12,532 4 2	...
b. Superior Officers	106 14 11	10,885 0 0
c. Subordinate Forest and Depôt Establishments	...	9,115 3 0
d. Office Establishments	3,874 6 11	1,544 10 0
e. Deputation and Special Allowances ...	202 0 0	...
II. Travelling Allowances—		
a. Conservators...	2,400 0 0	...
b. Superior Officers	75 7 9	1,420 0 0
c. Subordinate Forest and Depôt Establishments	...	871 13 6
d. Office Establishments	849 15 10	540 0 0
III. Contingencies—		
a. Stationery	6 0 9	78 11 6
b. Carriage of Tents and Records	173 4 0	105 12 0
c. Rents, Rates and Taxes	300 0 0	240 0 0
d. Pay of Police Guards	...	...
e. Official Postage	160 13 0	81 1 6
f. Sundries	134 0 6	159 10 9
Total B. Establishments.....	20,815 3 10	25,041 14 3
Grand Total of Expenditure.....	20,819 10 3	1,04,484 4 6

No. F. / 12050

Bombay,
Dated 9th August 1887.

Forwarded to the Conservator
Section 238 of the Forest

No. 58.

during the year 1886-87.

Jerruck Division.	Jacobabad Division.	Naushahro Division.	Sukkur Division.	Total.
10 8 0	...	...	51 0 0	61 8 0
53 9 10	...	...	132 5 6	304 15 4
9 8 0	12 0 0	2 5 0	136 9 10	1,533 13 4
...	...	...	...	...
25 2 0	75 5 0	27 8 0	455 9 0	783 0 4
12 0 0	...	...	...	12 0 0
2,298 15 2	1,360 15 0	1,166 7 1	73 7 0	4,899 12 3
...	...	36 0 0	...	36 0 0
1,712 0 8	71 8 0	162 0 0	1,094 9 4	3,206 14 0
1,007 8 11	15 12 0	1,027 4 2	2,106 3 3	5,707 0 7
...	...	...	7 10 0	7 10 0
434 4 0	154 9 3	...	424 5 5	2,155 15 8
...	...	...	...	...
...	...	...	...	...
3 9 0	13 4 9	...	3 8 0	21 13 9
59,540 2 8	65,038 5 4	67,580 3 7	1,32,484 6 10	4,04,089 15 1
...	...	...	...	12,532 4 2
10,200 0 1	1,620 0 0	3,323 1 0	2,677 1 2	28,812 1 2
6,577 14 6	7,584 4 5	6,550 14 10	9,500 9 3	39,328 14 0
1,360 3 7	1,255 2 10	1,322 8 0	1,592 2 7	10,949 1 11
...	...	...	...	202 0 0
...	...	...	...	2,400 0 0
1,800 0 0	1,200 0 0	2,028 11 4	1,540 5 2	8,064 8 3
521 3 2	911 7 5	513 14 2	566 0 11	3,384 7 2
425 5 7	577 8 2	437 10 3	536 12 5	3,367 4 3
57 12 2	101 2 3	62 13 0	124 1 6	430 9 2
157 2 9	102 0 0	115 8 0	103 8 0	757 2 9
255 0 0	240 0 0	240 0 0	108 0 0	1,383 0 0
...	...	...	...	...
120 13 0	171 4 0	185 0 0	152 1 6	871 1 0
133 8 8	288 13 0	167 8 4	247 1 2	1,130 10 5
21,608 15 6	14,051 10 1	14,947 8 11	17,147 11 8	1,13,613 0 3
81,149 2 2	79,089 15 5	82,527 12 6	1,49,632 2 6	5,17,702 15 4

of Forests, Sind Circle, under Code.

GODREZJI D. PADAMJI,
For Accountant General.

Form

FOREST DEPARTMENT,

Account Current

Dr.

To	Cash balance	...	77	11	5
„	VIII. Assessed Taxes—Income Tax	...	1,234	13	2
„	IX. Forests		6,85,782	2	0
„	XXII. Receipts in aid of Superannuation, &c., subsciption to the Military Fund	...	514	0	0
„	Revenue Deposits, Forests	...	1,955	14	2
„	Advances Repayable—				
	Advances Recoverable, Forests	...	1,60,086	11	9
„	Cash Recoveries	...	315	14	5
„	Cheques and Bills—				
	Forest Cheques	...	5,29,557	11	7
„	Forest Remittances—				
	Inter-Divisional Transfers	...	39,881	3	11
„	Account between Bombay and Public Work Department ordinary Branches, Bombay IV Items adjustable by Public Works Department.	...	55	0	0
	Total Rs.....	...	14,19,461	2	5

No.

Bombay
Accountant General's Office,
Forest Department.

Forwarded to the Conservator of Forests,

No. 59.

BOMBAY, SIND CIRCLE.

for the year 1886-87.

Cr.

By		I. Refunds and drawbacks—		
		Refunds Divided Heads—		
		Forests	.....	689 15 7
„	14	Forests...	.....	5,17,702 15 4
„	19	Law and Justice—		
		Jails—		
		District Jails—		
		Contingencies	.....	468 11 7
„	21	Marine—		
		Salaries and allowances of Officers—		
		Steamer "Jhelum" and "Flat Multan"—		
		Contingencies	.....	2,824 9 5
„	26	Scientific and other Minor Departments—		
		Botanical and other Public gardens ...	.....	225 0 0
		Revenue Deposits—		
		Forests	.....	1,896 9 2
		Advances Repayable—		
		Advances Recoverable, Forests	.....	1,57,226 11 1
		Cash Recoveries	.....	315 14 5
		Cheques and Bills—		
		Forest Cheques	.....	11,910 10 0
		Forest Remittances—		
		Remittances of Treasuries	2,46,424 13 3	
		Inter-Divisional Transfers	39,801 11 5	
				2,86,226 8 8
		Account between Bombay and Military, Bengal—		
		IV. Items adjustable by Military	... ..	22,213 2 9
		Account between Bombay and Public Works (ordinary branches) Bombay—		
		IV. Items adjustable by Public Works Department—		
		Inter-Departmental cheques	.....	969 12 8
		Account between Bombay and Public Works Department (Railway Branches)—		
		IV. Items adjustable by Puqlic Works Department, North-Western Railway	.....	4,16,626 6 10
		Cash Balance	.....	214 9 11
		Total Rs	.....	14,19,461 2 5

F
11747. *dated 9th August* 1887.

GODREZJI. D. PADAMJI,
For Accountant General.

Sind Circle, under Section 238 of the Forest Code.

ANNUAL

FOREST DEPARTMENT,

Revenue received and Outstandings

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during the year.
Sukkur.....	I. Timber and other produce removed from the Forests by Government agency—		
	(*a*) Timber	.....	12,243 14 3
	(*b*) Firewood	54 0 0	1,71,578 12 10
	(*c*) Grass and other minor produce	.....	356 1 5
	II. Timber and other produce removed from the Forests by consumers or purchasers—		
	(*a*) Timber	.....	2,517 12 11
	(*b*) Firewood and charcoal.....	.....	10,948 10 0
	(*d*) Grazing and fodder grass ...	.....	11,740 13 6
	(*e*) Other minor produce.....	.....	1,090 13 6
	III. Confiscated drift and waif wood	.....	105 10 2
	Total.....	54 0 0	2,10,582 8 8
Jacobabad	I. Timber and other produce removed from the Forests by Government agency—		
	(*a*) Timber	.....	4,057 5 1
	(*b*) Firewood and charcoal.....	.....	81,991 11 8
	(*c*) Grass and other minor produce.....	.....	.....
	II. Timber and other produce removed from the Forests by consumers or purchasers—		
	(*a*) Timber	.....	1,723 0 5
	(*b*) Firewood and charcoal	.....	14,242 7 7
	(*d*) Grazing and fodder grass ...	.....	2,206 8 0
	(*e*) Other minor produce.....	.....	202 11 0
	III. Confiscated drift and waif wood—	.....	19 4 0
	Total.....	.....	1,04,442 15 9

Hyderabad,
10*th September* 1887.

12,243 14 3	12,243 14 3	.....	The outstandings under V. C. at the end of the year amount to Rs. 139-12-11.
1,71,632 12 10	1,71,632 12 10	.....	
356 1 5	351 3 5	4 14 0	
2.517 12 11	2,517 12 11	.....	
10,948 10 0	10,948 10 0	.....	
11,740 13 6	11,740 13 6	.....	
1,090 13 6	1,090 13 6	.....	
105 10 3	105 10 3	.....	
2.10,636 8 8	2,10,631 10 8	4 14 0	
4,057 5 1	4,057 5 1	.....	
81,991 11 8	81,991 11 8	.....	
.....	.....	.....	
1,723 0 5	1,723 0 5	.....	
14,242 7 7	14,242 7 7	.....	
2,206 8 0	2,206 8 0	.....	
202 11 0	202 11 0	.....	
19 4 0	19 4 0	.....	
1,04,442 15 9	1,04,442 15 9		

Hyderabad	I. Timber and other produce removed from the Forests by Government agency—		
	(*a*) Timber	876 0 0	33,190 14 11
	(*b*) Firewood and charcoal	990 0 0	87,413 5 8
	(*c*) Grass and other minor produce	260 10 10	408 2 5
	II. Timber and other produce removed from the Forests by consumers or purchasers—		
	(*a*) Timber	.....	526 3 3
	(*b*) Firewood and charcoal	.....	2,366 15 1
	(*d*) Grazing and fodder grass ...	.....	13,610 12 0
	(*e*) Other minor produce	250 0 0	7,594 14 9
	III. Confiscated drift and waif wood—	.....	1 0 0
	Total.....	2,376 10 10	1,45,112 4 1
Jerruck	I. Timber and other produce removed from the Forests by Government agency—		
	(*a*) Timber	1,041 4 0	17,251 10 2
	(*b*) Firewood and charcoal	41 8 0	70,008 7 3
	(*c*) Grass and other minor produce	.....	6 13 0
	II. Timber and other produce removed from the Forests by consumers or purchasers—		
	(*a*) Timber	49 8 3	764 15 3
	(*b*) Firewood and charcoal	.....	363 9 11
	(*d*) Grazing and fodder grass ...	3 4 0	10,603 12 0
	(*e*) Other minor produce	.....	3,128 10 5
	Total.....	1,135 3 3	1,02,127 14 0

34,066 14 11	34,066 14 11	.....	The outstandings under V. C. at the end of the year to amount Rs. 15-12-9. .....
88,403 5 8	87,098 5 8	1,305 0 0	
668 13 3	668 13 3	.....	
526 3 3	526 3 3	.....	
2,366 15 1	2,366 15 1	.....	
13,610 12 0	13,610 12 0	.....	
7,844 14 9	7,844 14 9	.....	
1 0 0	1 0 0	.....	
1,47,488 14 11	1,46,183 14 11	1,305 0 0	
18,292 14 2	17,251 10 2	1,041 4 0	
70,049 15 3	65,448 0 11	4,601 14 4	
6 13 0	6 13 0	.....	
814 7 6	589 7 6	225 0 0	
363 9 11	343 9 11	20 0 0	
10,607 0 0	10,603 12 0	3 4 0	
3,128 10 5	3,128 10 5	.....	
1,03,263 6 3	97,371 15 11	5,891 6 4	

Naushahro	I. Timber and other produce removed from the Forests by Government Agency—		
	(*a*) Timber	.....	,2047 9 0
	(*b*) Firewood and charcoal	.....	85,726 4 9
	(*e*) Grass and other minor produce	.....	16 8 6
	II. Timber and other produce removed from the Forests by consumers or purchasers—		
	(*a*) Timber	.....	405 7 5
	(*b*) Firewood and charcoal	.....	2,775 14 0
	(*d*) Grazing and fodder grass ...	.....	7,705 9 0
	(*e*) Other minor produce.....	.....	2,400 6 11
	III. Confiscated drift and waif wood—	.....	4 12 0
	Total.....	.....	1,01,082 7 7
Total Sind Circle	I. Timber and other produce removed from the Forests by Government agency—		
	(*a*) Timber.....	1,917 4 0	68,791 5 5
	(*b*) Firewood and charcoal	1,085 8 0	4,96,718 10 2
	(*e*) Grass and other minor produce.....	260 10 10	787 9 4
	II. Timber and other produce rsmoved from the Forests by consumers or purchasers—		
	(*a*) Timber	49 8 3	5,937 7 3
	(*b*) Firewood and charcoal	.....	30,697 8 7
	(*d*) Grazing and fodder grass ...	3 4 0	45,867 6 3
	(*e*) Other minor produce.....	250 0 0	14,417 8 7
	III. Coufiscated drift & waif wood.	.....	130 10 3
	Tolal.....	3,566 3 1	6,63,348 1 10

FORM No. 60.

BOMBAY, SIND CIRCLE.

on account of Revenue during 1886-87.

Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
2,047 9 0	2,047 9 0	.....	
85,726 4 9	84,221 8 9	1,504 12 0	
16 8 6	16 8 6	.....	
405 7 5	405 7 5	.....	
2,775 14 0	2,775 14 0	.....	
7,705 9 0	7,705 9 0	.....	
2,400 6 11	2,400 6 11	.....	
4 12 0	4 12 0	.....	
1,01,082 7 7	99,577 11 7	1,504 12 0	
70,708 9 5	69,667 5 5	1,041 4 0	The outstandings under V. C. at the end of the year amount to Rs. 155-9-8.....
4,97,804 2 2	4,90,392 7 10	7,411 10 4	
1,048 4 2	1,043 6 2	4 14 0	
5,986 15 6	5,761 15 6	225 0 0	
30,697 8 7	30,677 8 7	20 0 0	
45,870 10 3	45,867 6 3	3 4 0	
14,667 8 7	14,667 8 7	.....	
130 10 3	130 10 3	.....	
6,66,914 4 11	6,58,208 4 7	8,706 0 4	

J. G. MACRAE, Lieut-Colonel,

Conservator of Forests, Sind Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Divisions.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (outstandings.)	By Department (Liabilities.)	
CONTRACTORS.									
Jerruck	.....	13,551 15 3	13,551 15 3	2,001 1 2	15,325 14 1	17,326 15 3	3,775 0 0	.....	
Hyderabad	.....	1,926 5 3	1,926 5 3	.....	3,426 5 3	3,426 5 3	1,500 0 0	.....	
Naushahro	.....	16,736 12 0	16,736 12 0	.....	16,736 12 0	16,736 12 0	.....	.....	
Jacobabad	.....	5,300 0 0	5,300 0 0	.....	5,300 0 0	5,300 0 0	.....	.....	
Sukkur	.....	27,274 14 9	27,274 14 9	7,793 5 7	20,533 14 4	28,327 3 11	1,052 5 2	.....	
Total Contractors...	.....	64,780 15 3	64,789 15 3	9,794 6 9	61,322 13 8	71,117 4 5	6,327 5 2	.....	
DISBURSERS.									
Jerruck	.....	25,043 5 11	25,043 5 11	447 4 0	24,750 9 11	25,197 13 11	154 8 0	.....	* Owing to the abolition of the Jacobabad Division from 1887-88 this balance will be accounted for in Sukkur Division.
Hyderabad	.....	22,566 3 6	22,566 3 6	42 0 0	22,759 7 4	22 801 7 4	235 3 10	.....	
Naushahro	.....	7,653 0 7	7,653 0 7	.....	7,653 0 7	7,653 0 7	.....	.....	
Jacobabad	.....	12,162 3 1	12,162 3 1	549 13 10	11,908 3 0	12,458 0 10	295 13 9	*	
Sukkur	.....	27,871 15 5	27,871 15 5	316 5 3	28,832 8 7	29,148 13 10	1,276 14 5	.....	
Total Disbursers...	.....	95,296 12 6	95,296 12 6	1,355 7 1	95,903 13 5	97,259 4 6	1,962 8 0	.....	
Grand Total...	.....	1,60,086 11 9	1,60,086 11 9	11,149 13 10	1,57,226 11 1	1,68,376 8 11	8,289 13 2	.....	

No. $\frac{\text{F}}{11742}$

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Office of Accountant General,
Bombay, 19th August 1887.

GODREZJI D. PADAMJI.

For Accountant General.

ANNUAL FORM No. 62.

Forest Department, Sind Circle.

Financial results of the year 1886-87.

Division.	Timber and other produce removed from the Forests by Government Agency.		Other revenue.		Formation, protection and improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sukkur.....	1,84,228	1,36,100	36,027	7,951	12,268	2,20,255	1,56,319	
Jacobabad	86,049	69,087	18,944	5,761	7,430	1,04,993	82,278	
Naushahro	86,286	71,234	21,068	6,082	8,471	1,07,354	85,787	
Hyderabad	1,21,834	85,198	30,056	10,308	13,589	1,51,890	1,09,095	
Jerruck.....	82,707	62,215	18,583	8,272	13,737	1,01,290	84,224	
Total.....	5,61,104	4,23,834	1,24,678	38,374	55,495	6,85,782	5,17,703	

Hyderabad,
10*th September* 1887.

J. G. MacRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

691—SIND

Statement showing the Progress of Forest Demarcation and Settlement Work in the Sind Circle for 1886-87.

Class of Forests.	At the commencement of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Areas settled during the year under		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year—Areas under Section 34 in which private rights have not been enquired into, settled and recorded.
		Chapter II of the Act.	Chapter IV of the Act.			
	Square Miles.	Square Miles.	Square Miles.	Square Miles.	Square Miles.	Square Miles.
Reserved Forests	.....	24	.....	.....	.....	.....
Protected Forests	.....	.....	.....	.....	.....	.....

J. G. McRAE, Lieut.-Colonel,
Conservator of Forests, Sind Circle.

Forest Administration Reports of the Northern, Southern and Sind Circles, 1886-87.

No. 2232 OF 1888.

REVENUE DEPARTMENT.

Bombay Castle, 12th April 1888.

Letter from the Conservator of Forests, N. C., No. 3972, dated 25th October 1887—Submitting the Forest Administration Report of the Northern Circle for the year 1886-87, with its subsidiary statements.

Memorandum from the Commissioner, N. D., No. 3813, dated 13th December 1887.
Letter from the Commissioner, C.D., No. R./109, dated 10th January 1888.
} Submitting their remarks on the report of the Northern Circle.

Letter from the Conservator of Forests, S.C., No. 3135, dated 18th October 1887—Submitting the Forest Administration Report of the Southern Circle for the year 1886-87, together with its subsidiary statements.

Memorandum from the Commissioner, S. D., No. 58, dated 7th January 1888—Submitting his remarks on the report of the Southern Circle.

Letter from the Conservator of Forests, Sind Circle, No. 741, dated 10th September 1887—Submitting the Forest Administration Report of the Sind Circle for the year 1886-87, with its subsidiary statements.

Memorandum from the Commissioner in Sind, No. 5396, dated 18th October 1887—Submitting his remarks on the report of the Sind Circle.

Letter from the Conservator of Forests, Sind Circle, No. 1292, dated 6th January 1888.
Letter from the Conservator of Forests, S. C., No. 4364, dated 17th January 1888.
Letter from the Conservator of Forests, N. C., No. 6248, dated 1st March 1888.
} Submitting, with reference to paragraph 2 of Government Resolution No. 8738, dated 24th December 1887, statements showing the progress of forest demarcation and settlement work in the form prescribed by the Government of India for embodiment in the Forest Administration Report for the year 1886-87.

RESOLUTION.—By far the most important feature in the forest history of the year 1886-87 was the decrease of net revenue by nearly 4½ lákhs as shown in the marginal table. An increase is reported in Sind alone, and it appears to have been due mainly to an increased supply of fuel to the North-Western Railway. The Governor in Council, who has read with interest Colonel MacRae's remarks in paragraph 67 of his report, hears with satisfaction that the revenue, both gross and net, of this Circle was the largest on record. In the Southern Circle also, though attention must be called to the somewhat startling results of departmental operations in Ratnágiri and to a smaller extent in Bijápur, shown in Form 62, the fact that the receipts exceeded those of all past years except 1885-86, when the enormous demand for sleepers for the Southern Marátha Railway then under construction swelled them abnormally, is matter for satisfaction, as is also the increasing demand for fuel for that railway.

	Receipts.		Expenditure.		Net Revenue.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Northern Circle ..	10,37,297	9,13,101	6,63,640	6,87,865	3,73,657	2,25,236
Southern do. ..	17,92,114	14,33,793	7,22,586	6,94,614	10,69,528	7,39,179
Sind do. ..	5,36,874	6,85,782	4,02,660	5,17,703	1,34,214	1,68,079
Total ..	33,66,285	30,32,676	17,88,886	19,00,182	15,77,399	11,32,494

In spite of these satisfactory features in the working of the Department during 1886-87, His Excellency the Governor in Council cannot but regard with grave anxiety the subject of forest finances in their present relation to the Provincial resources of this Government. It is plain that under the present system the large gross receipts from Sind forests cannot, even if maintained or increased,

add appreciably to the general net revenue. The receipts in the Southern Circle are closely associated with demand for railway construction and working and must, unless otherwise developed, be dependent in great measure upon a demand which in its nature is uncertain; and meantime over the very large area of the Northern Circle causes beyond departmental control or prevision have operated to reduce the receipts from wood and other forest produce. The experience of the season which has passed since 1886-87 carries the same warning, the forest accounts of 1887-88 being estimated to show a deficit on the contract figures of Rs. 23,000.

2. In three of the eleven divisions of the Northern Circle receipts failed to balance expenditure, and in eight the net revenue was less than in the previous year. The main causes assigned are the stagnation of the timber market in Thána, an absence of demand for timber from the forests of the Surat Division, and a fall in the price of myrobalans.

The revenue from grazing fees was, it is observed, higher for the whole Circle than in the previous year, though in Poona, and to a still greater extent in Sholápur, an important decrease is reported, the cause of which in the latter is not explained, but in the former appears to have been to some extent the evasion by professional graziers of the rule requiring them to pay fees when pasturing their cattle in the areas in which "village cattle" are allowed to graze free of charge.

3. The forest area at the beginning and end of the year under review is shown in the following table :—

	Area on 1st April 1886 in Square Miles.		Added.		Excluded.		Area on 31st March 1887.	
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.
	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.
Northern Circle	7,016	1,013	251	119	36	52	7,231	1,080
Southern Circle	1,816	3,414	6	4	...	6	1,822	3,412
Sind Circle	673	...	34	....	8	...	699	...
Total ...	9,505	4,427	291	123	44	58	9,752	4,492

4. The selection of land for forests was practically completed in Sind and was pushed on rapidly in most of the divisions of the other two Circles. Numerous demarcation reports were submitted to Government for sanction and as a consequence considerable areas, not shown in the above table, were provisionally notified as Reserved Forests under Section 4 of the Forest Act. The final additions to the Reserved Forest area were important in only a few divisions of the Northern Circle, in which they were due to the completion of the settlement inquiries made in respect of lands previously provisionally notified by Government under Section 4. In the Panch Mahâls division alone, in which no Protected Forest had previously existed, was the formation of any considerable area of this class of State property sanctioned, and in this case the expediency of encouraging cultivation in a fertile but backward district rendered desirable a departure from the principle usually acted upon of applying to State forest property the final method of settlement prescribed by the Forest Act for Reserved Forests only.

Mr. Shuttleworth suggests a doubt as to whether the demarcation schemes already sanctioned by Government, more especially those for the subdivisions included in the catchment area of Bombay Harbour, provide sufficiently for the storage of the rainfall, but he should be aware that Government have not sanctioned these schemes without weighing carefully all the arguments on the subject which he has on each occasion brought forward, and considering, on the other hand, the important local interests, conflicting with his alternative and ideal schemes, in thickly populated districts.

5. The Conservators of the Northern and Southern Circles—in Sind settlement is practically completed—in reporting on the work of the various

Forest Settlement and Demarcation Officers have not kept "Settlement" distinct from "Demarcation" work, and though the additions made during the year—in all cases by notification under Section 19 of the Forest Act—to the Reserved Forest area give, no doubt, some idea of the area previously notified under Section 4, in respect of which all the requisite settlement formalities prescribed in the following sections were completed, it is desirable that exact figures showing the progress made in respect of both Reserved and Protected Forests should be given in future reports. As regards the settlement of areas notified under Section 34 the Conservators have separately complied, since the submission of their printed reports, with the instructions contained in Government Resolution No. 8738, dated 24th December 1887, and have submitted statements of which the following is a summary :—

Class of Forests.	At the commencement of the year—Areas under Section 34, in which private rights have not been enquired into, settled, and recorded.	Areas settled during the year under		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year—Areas under Section 34, in which private rights have not been enquired into, settled and recorded.
		Ch. II of the Act.	Ch. IV of the Act.			
	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.
Northern Circle ... Reserved ...	1,768	68	...	8	...	1,692
Northern Circle ... Protected ...	621	...	...	...	1	620
Southern Circle ... Reserved ...	965	69	...	...	...	896
Southern Circle ... Protected ...	2,667	...	25	...	7	2,635
Sind Circle ... ... Reserved ...	.....	(24)	...	...	...	... ...
Total ... Reserved ...	2,733	137	...	8	...	2,588
Total ... Protected ...	3,288	...	25	...	8	3,255

The figures given by the Conservator of the Sind Circle are obviously incorrect, for if no areas (see column 1) remained unsettled at the beginning of the year, none could be settled during it. Colonel MacRae has apparently not confined, as he should have done, his information to the case of areas previously notified under Section 34. The fact that in the Northern and Southern Circles Poona and Kolába respectively were the only districts in which any settlement at all of such areas was effected, should be further reported on by the Conservators of those Circles. Government have repeatedly urged the necessity for speedily completing the settlement of these lands. Mr. Shuttleworth should have explained why he omitted the two Khándesh Divisions, Násik, Sátára and Sholápur from his statement.

6. The expenditure incurred during the year on the creation and constitution of forests, including the salaries and allowances of Forest Settlement Officers, was as follows :—

	Rs.
Northern Circle	1,36,767
Southern Circle	54,225
Sind Circle	2,562
Total ...	1,93,554

7. The newly established working plans branch of the Forest Department was busily employed during the year in the Thána District, but the results of the season's work show that progress in the preparation of very elaborate schemes for working the forests will be far too slow to justify their occupying for the present the exclusive or even any large share of the attention of that branch. The circumstances of this district necessitate the rapid formation and carrying out of somewhat rough schemes for dealing with the whole of the extensive area in charge of the Forest Department, and the Governor in Council approves generally of the opinions expressed on this subject and the proposals made by Mr. Shuttleworth in paragraphs 49 and 52 of his report. In the Southern Circle though no regular working plans could be prepared the investigations

made in some of the Belgaum Forests adjacent to the Southern Marátha Railway, with a view to preparing a plan for furnishing a sustained supply of fuel to that railway, were of considerable importance.

The Conservator of the Sind Circle reports the successful working of the Laikpur forest by an arrangement with the zamíndár which has the peculiar feature of combining alternations of cultivation with forest in such a manner that the expense of cutting and delivery of wood actually falls upon the profits of cultivation. This experiment is particularly valuable in Sind where the cost of production by departmental agency falls so heavily upon forest finance; its apparent success is, no doubt, due to the very rapid reproduction of wood fit for fuel in watered land in Sind.

8. The subject of forest surveys is intimately connected with that of working plans, which are necessarily based on them. The results of the surveys conducted during the year by the Government of India survey parties in the Thána and Belgaum forests cannot be considered as satisfactory either financially or, looking to the slow progress made, from an administrative point of view, and the Government of India have already been addressed on the subject of a revised scheme for surveying the forests in future. No adequate return for the heavy cost of the present survey can, it is feared, be expected, and it seems clear that in Tháua, at all events, the working plans branch, for whose use the maps are mainly required, will, if the scheme recommended by Mr. Shuttleworth is adopted, be compelled to dispense with them altogether until a large portion of its work is completed. For reasons which have been sufficiently stated by Colonel MacRae little progress could be made with the departmental survey of the forests of the Sind Circle.

9. The result of prosecutions under the Forest Act was more satisfactory than in the previous year in the Southern and Sind Circles, but slightly less so in the Northern, where, however, the result may be attributed almost exclusively to the remarkable failure of prosecutions in Sátára, where the non-success of 71 out of 87 seems to show that cases were sent up for trial without sufficient preliminary inquiry. The attention of the District Magistrate should be given to this matter and report made to the Commissioner as to the cause of such an unsatisfactory result. The Conservator should address the District Magistrates on the point raised at the close of his paragraph 78 regarding procedure preliminary to the trial of forest cases in regard to which it would appear that the provisions of the law are not properly complied with.

An increase in the number of compounded cases is reported by the Conservators of the Northern and Sind Circles. Mr. Shuttleworth's remarks in paragraph 78 of his report on the system of compounding offences appear to be sound,

10. As regards the general protection of the forests nothing that calls for special notice is reported. The question of amending Section 41 of the Forest Act, with a view mainly to the circumstances of forest administration in Thána, is still under consideration.

11. The Governor in Council has learnt with regret the prevalence of fires in the Upper Sind forests during the year under review, and he also regrets to hear that the protection of those forests from fire is considered by Colonel MacRae to be hopeless. That officer again urges the expediency of firing the reed jungles. The explanation he has now given of the features of his scheme places its advantages in a much clearer light than that previously submitted by him, and as the scheme appears to provide for the systematic destruction of blocks of worthless jungle, which cannot ordinarily improve and is liable at any time to destruction by fire, as the only means of preventing fires spreading into valuable forest, and is, therefore, somewhat akin to, though more extensive than, the ordinary "fire path" system of protection, the Governor in Council believes that the Government of India can have no objection to an experimental trial in selected areas, which is accordingly sanctioned.

12. The relations between the protective staff and the people appear to have been generally satisfactory, and the Governor in Council has already, in

reviewing the Administration Report of the Collector of Thána for 1886-87, had occasion to notice the decrease of friction in that district.

13. The special free grants of timber made during the year under review were as usual of little importance, but the Conservator, N. C., has in paragraph 139 of his report pointed out that the free grants of various kinds of produce made in the form of "privileges" exceed in value the total forest revenue of his Circle. On this very difficult subject the Governor in Council does not consider that any remarks are here necessary, as it will be dealt with elsewhere. The Governor in Council has always been careful, while formally conceding liberal privileges on the completion of a forest settlement to communities which are reported to have enjoyed them, though as a matter of favour and not of right, for many years past, to make it clearly understood that such privileges are intended to be exercised as of favour only and are subject to withdrawal at any time.

14. For reasons stated in the Conservators' reports little expenditure on "communications" was incurred during the year under review. Government have, however, in Resolution No. 8738 of 24th December 1887, informed the Commissioners that in the case of any road-construction contemplated by the Local Boards, which is likely to be of service to the Government forests, some assistance from Government may be looked for.

15. The Conservator, N. C., should be requested to submit, after consultation with the other two Conservators, a detailed scheme for carrying out the proposal made in paragraph 157 of his report. With a view to diminishing the sedentary work of officers whose principal duties must be performed inside the forests, and in order to decrease the cost of the clerical staff, it seems to the Governor in Council eminently desirable that some such scheme should be adopted.

E. LAWRENCE,
Acting Under Secretary to Government.

To

The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
The Commissioner in Sind,
All Collectors, including the Collectors and Deputy Commissioners in Sind,
The Conservator of Forests, N. C.,
The Conservator of Forests, S. C.,
The Conservator of Forests, Sind Circle,
The Director of Land Records and Agriculture,
The Accountant General,
The Judicial Department of the Secretariat,
The Editors' Table, Bombay,
The Editors' Table, Poona, *care of* the City Magistrate, Poona,
The Editor and Proprietor, *Dhárwár Vritt*, Dhárwár (for his own use and for circulation to other Editors of newspapers in Dhárwár),

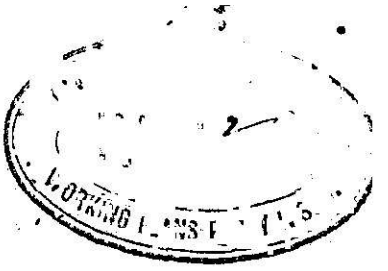
} With copies of the reports.

The Government of India,
The Secretary of State for India.

} By letter.

ADMINISTRATION REPORTS

OF THE



FOREST DEPARTMENT

IN THE

BOMBAY PRESIDENCY,

INCLUDING

SIND;

FOR THE YEAR 1888-89.

Bombay:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1890.

NORTHERN CIRCLE.

No. 3696 of 1889-90.

From

A. T. SHUTTLEWORTH, Esquire,

Conservator of Forests, Northern Circle;

To

JOHN NUGENT, Esquire,

Chief Secretary to Government,

Revenue Department,

Bombay.

Poona, 31st October 1889.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Northern Circle for the year 1888-89, with its subsidiary statements.

I have the honour to be,

Sir,

Your most obedient Servant,

A. T. SHUTTLEWORTH,

Conservator of Forests, Northern Circle.

B 623—a NG

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FOREST ADMINISTRATION REPORT, NORTHERN CIRCLE, 1888-89.

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FOREST ADMINISTRATION REPORT

OF THE

NORTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1888-89.

INTRODUCTION.

The official year 1888-89 may be considered in the history of the administration of the Forest Department of the Northern Circle to be a prosperous year, for satisfactory progress can be recorded in every branch of forest conservancy and works, and evidence has not been wanting to show what good service well preserved forests are capable of rendering to mankind.

2. The conviction that the forests of Western India should be regarded mainly from the standpoint of their utility in augmenting the general prosperity of the country, is steadily gaining ground, and is receiving wider acceptance, as the beneficial change that has come over the mountain and hill ranges under forest protection, in the Deccan especially, becomes more frequently commented upon by district officers and other travellers, who realise the improved climatic conditions, who see the water-supply of the country naturally increasing, who observe that fodder and grazing are provided for cattle inside the forests at times of drought and scarcity when no grazing and little fodder is obtainable outside forest preserves, who notice that labour, employment, livelihood, trade, follow in the train of successful forest conservation, that old industries flourish and new industries are created, that animal life is promoted, inasmuch as birds and beasts increase and multiply, who mark that agriculture receives renewed vigour and thrives where it was drooping before, who realise that the rivers whose sources are preserved in afforested mountainous lands maintain constant water even in the dry months and are not subjected to disastrous floods in the season of rain, and who recognize that the soil is bound to the drainage slopes by the forest growth and is not carried away bodily from the mountain sides to be deposited in, and thereby to choke up, river-beds, water-channels, artificial reservoirs, tidal creeks and harbours, that no detritus comes down from the wooded hill-sides to bury crops on the fields below and to convert productiveness into waste.

3. A net increase of 298 square miles and 569 acres has accrued at the close of the year upon the acreage which represented the extent of forest reservations at the commencement of the year. The reserved forests have expanded by 317 square miles and 619 acres, while on the other hand the protected forests have suffered reduction by 19 square miles and 50 acres owing to conversions, either into reserved forest, or into crop-lands.

4. Forest and waste lands have been prospected in different directions with the view of constituting additional reserved and protected forests, and some selected lands have been provisionally notified during the year in order to undergo inquiry into the existence, nature and extent of rights which may be attaching to them.

5. Forest-settlement proceedings have been prosecuted with vigour in six divisions, and very few of the "old forests" remain now to be settled.

6. 2,265 miles of forest boundaries have been defined upon the ground by outward and visible signs of forest reservation in the shape of 8,556 large-sized special forest-boundary marks, and 25,402 smaller ones; the expenditure upon demarcation having amounted to Rs. 11,948.

7. Privileges of appropriation and enjoyment have been exercised freely by forest villagers generally in the forests of all districts. Free grazing, the free collection and removal of dead fallen firewood, and the appropriation of minor forest produce, constitute the chief of these concessions.

8. The application of Working Plans has been extended to the forests of the Thána district, wherein 1,143 square miles of forests had been differentiated into blocks and compartments up to the close of the year; and 156 compartments had been transformed into "coupes" for the exploitation of timber, and were worked during the year.

9. Forest surveys upon a normal scale of 4 inches equal to 1 mile, but with the larger scale of 8 inches to the mile for exceptionally valuable forests, were carried on by the Forest Survey Department in the Násik, Thána, Poona and Sátára districts; and much useful work has been accomplished.

10. The institution of a special Forest Survey Branch for the forests of this Presidency is *the* historical event of the year. This Survey Branch consists of a survey party belonging to the Topographical Survey Department of the Government of India.

11. No changes have taken place in the constitution and numerical strength of the Controlling and subordinate establishments.

12. Protection against forest crimes, other than setting fire to forests, has been generally successful. 1,027 cases were prosecuted, convictions obtaining in 776 of them; and 6,154 detected forest offences were compounded under Section 67 of the Forest Act. 1,99,426 head of cattle of different kinds caught trespassing in plantations and closed forests were impounded under Chapter XI of the Forest Act.

13. Fire-conservancy has not been so satisfactory as could be desired. The year was a comparatively dry year, and owing to the scarcity of fodder closed forests were opened to grazing in several divisions, and thus more elements for the occurrence and prevalence of fires were present. More than one-fifth of the total forest area of the Northern Circle was traversed by fires.

14. It has not been a good year for cultural operations, for the rainfall was delayed, fickle and scanty. However, natural reproduction has not made unsatisfactory progress all over the country. Wherever protection, which is the life of forestry, has been good, there reboisement and regeneration have produced marked effect, and the augmentation of the capital value of the forests promises increased revenues in the future.

15. Communications, which render forest produce accessible to markets, have been improved and extended in all divisions by the Public Works Department, during the year, at the cost of the Provincial Services Budget, towards which the Forest Department contributes a considerable sum annually; and surveys and estimates of cost have been made of newly projected lines for timber and other traffic.

16. Buildings to serve as the offices of Range Forest Officers have been constructed also by the Public Works Department in connection with some táluka kacheris in districts where such accommodation was wanting. And forest-posts and stations for forest round and beat-guards to live in, occupying central sites within the areas entrusted to their protective care, have been built in different directions by Divisional Forest Officers at the cost of the Forest Budget.

17. Free grants of timber have been made, in all the districts save Sholápur, by the Revenue Officers, to destitute and other cultivators, who have suffered loss by fire, or have not possessed the means to re-build and repair their houses.

18. An increased quantity of timber and other forest produce has been exploited from the forests in all the divisions, a larger proportion of the forests having been brought under working operations, and a larger acreage-yield having been obtained in many cases.

19. The forest revenue of the year is the largest on record. It has increased in the last ten years from Rs. 4,48,850 in 1878-79 to Rs. 11,60,769 in 1888-89, and is by Rs. 1,23,472 greater than of the best year of the past decade.

The demand for timber has been good, and fair prices have ruled the market. From grass and grazing enhanced receipts, exceeding those of the previous year by over Rs. 77,000, have been credited: this is due in great measure to closed forest areas having been opened to cattle upon payment of fees in the Deccan and Khándesh districts owing to a scarcity of fodder. The year has been of financial prosperity.

20. The following statement shows the names of the superior Forest Officers who have been conducting the administration of the forests during the year and the stations they have occupied, with other particulars.

NORTHERN CIRCLE.

Mr. A. T. Shuttleworth, Conservator of Forests, 1st Grade, throughout the year.

No.	Forest Division.	Name of Officer.	Rank.	Designation.	From	To	Remarks.
1	2	3	4	5	6	7	8
		Mr. A. D. Wilkins ...	Deputy Conservator of Forests, 4th Grade.	Divisional Forest Officer.	1st April 1888 ...	31st March 1889.	
		,, J. H. Clabby ...	Acting Sub-Assistant Conservator of Forests, 3rd Grade.	Assistant ...	Do. ...	Do.	
1	North Thána ...	,, A. R. Maidment.	Sub-Assistant do.	Do. ...	Do. ...	7th May 1888.	
		,, J. Baptista ...	Acting do. do.	Do. ...	8th May 1888 ...	22nd Sept. 1888.	
		,, A. R. Maidment.	Sub-Assistant do.	Do. ...	23rd Sept. 1888 ...	4th Dec. 1888.	
		,, J. Baptista ...	Acting do. do.	Do. ...	5th Dec. 1888 ...	22nd do.	
		,, A. R. Maidment.	Sub-Assistant do.	Do. ...	23rd do. ...	31st March 1889.	
		Mr. G. P. Millett ...	Assistant Conservator of Forests, 1st Grade.	Divisional Forest Officer.	1st April 1888 ...	Do.	
		,, R. H. Madan ...	Acting do. 3rd Grade	Assistant ...	Do. ...	7th July 1888.	
2	South Thána ...	,, G. S. Hinge ...	Acting Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ...	8th July 1888 ...	10th October 1888	
		,, R. H. Madan ...	Acting Assistant do.	Do. ...	12th October 1888	31st March 1889.	
		,, N. B. Oke ...	Sub-Assistant do. 1st Grade.	Do. ...	1st April 1888 ...	4th Dec. 1888 ...	Retired on pension.
		Mr. W. G. Clabby ...	Acting Assistant Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do. ...	4th April 1888.	
		,, R. S. F. Fagan ...	Deputy Conservator of Forests, 4th Grade.	Do. ...	5th April 1888 ...	7th August 1888.	
3	East Khándesh.	,, W. G. Clabby ...	Acting Assistant Conservator of Forests, 3rd Grade.	Do. ...	8th August 1888.	6th October 1888	
		,, F. R. Desai ...	Deputy Conservator of Forests, 1st Grade.	Do. ...	7th October 1888	31st March 1889.	
		Mr. R. S. F. Fagan ...	Do. 4th Grade	Do. ..	1st April 1888 ...	Do.	
		,, G. S. Hinge ...	Acting Sub-Assistant Conservator of Forests, 3rd Grade.	Assistant ...	Do. ...	11th June 1888.	
4	West Khándesh.	,, G. K. Shahane ...	Sub-Assistant Conservator of Forests, 2nd Grade.	Do. ...	12th June 1888 ...	2nd Nov. 1888 ...	Under suspension up to 31st March 1889, and since dismissed.
		,, G. S. Hinge ...	Acting do. 3rd Grade	Do. ...	22nd Jan. 1889 ...	31st March 1889.	
		Mr. W. G. Betham ...	Deputy Conservator of Forests, 2nd Grade.	Divisional Forest Officer.	1st April 1888 ..	4th April 1888.	
		,, W. G. Clabby ...	Acting Assistant Conservator of Forests, 3rd Grade.	Do. ...	5th do. ...	10th July 1888.	
5	Násik	,, W. G. Betham ...	Deputy Conservator of Forests, 2nd Grade.	Do. ...	11th July 1888 ...	31st March 1889.	
		,, W. A. Wallinger.	Sub-Assistant Conservator of Forests, 3rd Grade.	Assistant ...	1st April 1888 ...	Do.	
		Mr. H. Mainwaring...	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do. ...	2nd May 1888.	
		,, S. Hornidge ...	Assistant Conservator of Forests, 1st Grade.	Do. ...	3rd May 1888 ...	11th July 1888.	
6	Ahmednagar ...	,, W. G. Clabby ...	Acting Assistant Conservator of Forests, 3rd Grade.	Do. ...	12th July 1888 ...	1st August 1888.	
		,, H. Mainwaring...	Deputy Conservator of Forests, 3rd Grade.	Do. ...	2nd August 1888	31st March 1889.	
7	Poona	Mr. R. C. Wroughton	Do. 2nd Grade.	Do. ...	1st April 1888 ..	Do.	
		,, W. R. Gaunde ...	Sub-Assistant Conservator of Forests, 2nd Grade.	Assistant ...	Do. ...	Do.	
8	Sátára	Mr. C. Greatheed ...	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do. ...	Do.	
		,, L. D. Joshi ..	Sub-Assistant Conservator of Forests, 1st Grade.	Assistant ...	Do. ...	Do.	
9	Sholápur ...	Mr. S. Hornidge ...	Assistant do.	Divisional Forest Officer.	Do. ...	26th March 1889.	
		,, H. Mainwaring...	Deputy Conservator of Forests, 3rd Grade.	Do. ...	27th March 1889.	31st do.	
10	Surat	Mr. F. Gleadow ...	Do. 4th Grade.	Do. ...	1st April 1888 ...	14th April 1888.	
		,, W. S. Hexton ...	Do. 1st Grade.	Do. ...	15th do. ...	31st March 1889.	
11	Panch Mahals.	Mr. H. W. Keys ...	Assistant Conservator of Forests, 1st Grade.	Do. ...	1st do. ...	9th July 1888.	
		,, R. H. Madan ...	Acting do. 3rd Grade	Do. ...	10th July 1888 ...	9th October 1888	
		,, H. W. Keys ...	Assistant do. 1st Grade.	Do. ...	10th October 1888	31st March 1889.	
12	Working Plans.	Mr. T. B. Fry ...	Deputy Conservator of Forests, 3rd Grade.	Do. ...	1st April 1888 ..	6th August 1888.	
		,, R. C. Wroughton	Do. 2nd Grade.	Do. ...	7th August 1888.	5th Nov. 1888.	
		,, T. B. Fry ..	Do. 3rd Grade	Do. ..	6th Nov. 1888 ...	31st March 1889.	

CHAPTER I.

AREA AND BOUNDARIES.

1.—AREA.

21. The selection of forest-lands or waste-lands for forest reservations was carried on systematically during the year in the divisions of North and South Thána, East and West Khándesh and Ahmednagar, by officers specially appointed for the purpose; while in other divisions Assistant or Deputy Collectors performed this work, where it was required to be undertaken, in addition to their own Revenue and Magisterial duties.

22. The following statement shows the respective areas added to, and excluded from, the forest areas existing at the commencement of the year in the several divisions; and also the acreage remaining in forest reservations duly constituted under the Indian Forest Act at the end of the year:—

No.	Division.	Area on 1st April 1888.				Added during the year.				Disforested during the year.				Area on 31st March 1889.			
		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	North Thána	284	536	208	369	15	122	..	..	..	2	2	529	300	16	295	480
2	South Thána	325	395	352	388	1	267	..	..	..	1	..	4	327	21	352	384
3	East Khándesh	724	472	68	161	75	108	..	..		100	15	..	799	480	53	161
4	West Khándesh .	1,237	634	195	151	..	302	..	..	..	..	..	..	1,238	296	195	151
5	Násik	1,107	315	..	..	170	480	..	..	..	247	..	..	1,277	548	..	..
6	Ahmednagar	822	540	11	114	36	357	..	..	..	286	..	..	858	611	11	114
7	Poona	727	508	.	..	13	185	..	..	..	540	..	..	740	148	..	..
8	Sátára	664	366	..	17	5	456	..	11	4	131	..	..	666	1	..	28
9	Sholápur	270	547	..	..	1	557	..	..	..	18	..	..	272	446	..	..
10	Surat	69	124	..	..	..	..	..	..	..	..	..	..	69	124	..	..
11	Dángs	678	320	..	..	..	..	..	..	..	..	..	..	678	320	..	..
12	Kaira	..	39	..	..	..	..	..	..	..	..	..	..	..	39	..	..
13	Panch Maháls	179	377	140	253	7	273	1	142	3	473	2	310	183	177	139	85
14	Ahmedabad	34	118	..	..	..	..	..	..	..	..	..	..	34	118	..	..
	Total ..	7,128	166	1,066	173	327	547	1	153	9	568	20	203	7,446	145	1,047	123

23. The year commenced with 8,194 square miles and 339 acres, made up of 7,128 square miles and 166 acres of reserved, and 1,066 square miles and 173 acres of protected, forests under forest conservancy. 327 square miles and 547 acres of reserved forests appear as added during the year; but 82 square miles and 536 acres of this quantity do not represent expansion of forest reservation, but only an increase on paper, owing to a rectification of figures made in the forest lists of the Násik Division, careful examination of the Revenue Survey Records having shown that the sum total of the acreage of all the survey numbers which comprise the reserved forests in that division is greater by 82 square miles and 536 acres than had been previously recorded by the Forest Settlement Officer. The actual expansions of the reserved forests perfected by notifications published during the year under Section 19 of the Forest Act aggregate 245 square miles and 11 acres. And the net increase in the reserved forest acreage on the forest registers after deduction has been made of the disforestations, amounting to 9 square miles and 568 acres, which have been effected from time to time under Section 26 of the said Act, is shown as 317 square miles, 619 acres, while the actual expansion of the reserved forest areas is only 235 square miles and 83 acres.

24. One square mile and 153 acres have been added to the protected forests, and 20 square miles and 203 acres have been removed from protected forests during the year; and by these changes a decrease of 19 square miles and 50 acres in the area of protected forests has been produced, but the greater portion of the removed has been transformed into "Reserved Forests."

25. The total area maintained in forest conservancy at the close of the year under Chapters II. and IV. of the Forest Act is 8,493 square miles and 268

acres, consisting of 7,446 square miles and 145 acres of reserved, and 1,047 square miles and 123 acres of protected forests. These figures indicate the sum total of the increase of the territorial area of forest conservancy to be 298 square miles and 569 acres, but, as explained above, 82 square miles and 536 acres do not represent actual expansions of reservations, and are added by rectification of incorrect entries in the forest registers.

26. It must at the same time be noted that 34 square miles and 118 acres of the reserved forests in the Modása Petha of the Ahmedabad Collectorate, included in the above statement, have not yet been placed under the management of the Forest Department, but continue in charge of the Collector of the District, as was the case during the preceding year; and also that the 39 acres of reserved forests shown against Kaira, which were removed from the charge of the Forest Department under the orders of Government Resolution No. 4332, dated 29th May 1884, in the Revenue Department, not having been disforested by notification under Section 26 of the Forest Act up to date, are still entered in the statement as forest, although their management is under the Land Revenue Department, who dispose of the grass upon these lands by public auction sales.

27. The following statement shows how far the work of forest demarcation, meaning the selection and constitution under the Indian Forest Act VII of 1878 of lands for forest reservation, had progressed up to the close of the year; and the proportions that the reserved forests bear to the territorial areas of different Collectorates in the Northern Circle. "Protected Forests" are not taken into account as they are not considered to be permanent reservations :—

No.	Collectorates.	Territorial area in Square Miles.	Reserved Forests duly constituted in Square Miles.	Percentage of Forests.	Number of Tálukás or Revenue Sub-Divisions.	Number of Tálukás in which Demarcation has been undertaken and sanctioned.	Number of Tálukás in which Demarcation remains to be completed.	Number of undemarcated Tálukás.
1	Thána	3,936	627	15·9	10	6	1	3
2	Khándesh	9,944	2,038	20·4	16	10	4	2
3	Násik	5,940	1,278	21·5	12	11	1	...
4	Ahmednagar ...	6,666	859	12·8	11	11	...	...
5	Poona	5,348	740	13·8	8	8	...	...
6	Sátára	4,988	666	13·3	11	11	...	...
7	Sholápur	4,521	273	6·0	7	7	...	...
8	Surat*	1,662	70	4·2	8	1	3	4
9	Panch Maháls ...	1,613	183	11·3	3	3	...	...
10	Ahmedabad ...	3,821	34	0·88	7	1	...	6
	Total ...	48,439	6,768	13·9	93	69	9	15

* The Dángs are not included.

28. It will be seen from the statement that in the Collectorates of Ahmednagar, Poona, Sátára, Sholápur and Panch Maháls no demarcation work remains to be done. But the work of acquiring tracts of occupied lands which are included in the sanctioned demarcation schemes of the several tálukás of these Collectorates, as well as of the others, was going on during the year, and a sum, Rs. 32,013, was expended in payment of the compensation for the obtainment of 2,031 acres of such lands.

29. In addition to the duly constituted reserved and protected forests considerable areas of forest-lands and of waste-lands which have been selected for forest reservation and in this view have been provisionally notified under Sections 4 and 28 of the Forest Act, were still undergoing inquiries at the close of the year. The following statement gives the distribution of such unsettled forest-lands in the different Collectorates of the Northern Circle :—

No.	Collectorates.	Reserved Forests under Section 4.		Protected Forests under Section 28.		Total.	
		S. Miles.	Acres.	S. Miles.	Acres.	S. Miles.	Acres.
1	Thána	75	626	...	...	75	626
2	Khándesh	198	463	260	493	459	316
3	Násik	...	326	...	...	...	326
4	Ahmednagar	5	559	...	...	5	559
5	Poona	3	214	...	...	3	214
6	Sátára	8	394	...	...	8	394
7	Sholápur	...	...	...	...	...	...
8	Surat	...	...	...	...	...	...
9	Panch Mahals	14	30	...	...	14	30
	Total ...	307	52	260	493	567	545

30. Mr. W. S. Owen, Assistant Superintendent, Revenue Survey, continued to be Forest Settlement Officer throughout the year in the Thána Collectorate. And from the commencement of the year up to the end of May 1888 this officer was engaged in the Wáda Táluka on field demarcation, inspecting and revising, where required, the location and the boundaries of the proposed reserved forests which had been provisionally selected by Mr. Wilkins, the Divisional Forest Officer. In some cases an altogether new line was adopted, while in many cases Mr. Wilkins' boundary, which, generally speaking, corresponds with the revenue survey boundary, was fixed. Mr. Owen then moved into the Bhiwndi Táluka, where negotiations were carried on with survey occupants for the surrender of some lands required for inclusion in reserved forests: this work lasted up to the middle of June. During the rainy season at Thána a variety of work was accomplished by the Forest Settlement Officer, including enquires into rights over teak and other reserved trees upon occupied lands in four tálukás. After the rains and up to the close of the year under report, the demarcation of reserved forests in the Máhím Táluka occupied all Mr. Owen's time and attention.

31. Government Resolution No. 5177, dated 1st August 1888, was passed on the supplementary report on the demarcation and settlement of the Bassein Táluka, and the notifications, as per margin, were published under Section 19 as regards the lands in the tálukás of Bassein, Bhiwndi and Kalyán, and Petha Mokháda; and a provisional notification, under Section 4 of the Forest Act, was published in the *Government Gazette* of the 28th March 1889, in respect of forest-lands and waste-lands to be constituted reserved forests in the Sháhápur Táluka. The greater portion of these forest-lands are protected forests, which were gazetted under Section 34 in March 1879. Rs. 4,649-2-0 were expended in payment of compensation for acquiring 212 acres and 37 gunthás of lands for forest purposes by the Forest Settlement Officer, and Rs. 18,053-6-8 by the Special Officer, Tánsa Water Works, for acquiring 1,078 acres and 29 gunthás of occupied lands for forest reservation.

Bassein.
Government Notification No. 5177 B., dated 1st August 1888.

Mokháda.
Government Notification No. 5915, dated 3rd September 1888.

Bhiwndi.
Government Notification No. 6457 A., dated 25th September 1888.
Government Notification No. 7214, dated 29th October 1888.

Kalyán.
Government Notification No. 7732 A., dated 19th November 1888.

32. Mr. C. G. Dodgson, C. S., was in charge of the Forest Settlement Office, Khándesh, throughout the year, and from the commencement of the year up to the rains was engaged in demarcating Bhil settlements inside the Taloda Plain Reserved Forests, and in laying down the boundaries of the Western Taloda Plain Reserves, in the Navápur Petha in revising the boundaries of the two old reserves in the north, known as the Nesu and South Tápti Reserves. A report on the demarcation of these forests was submitted to Government, who, in their Resolution No. 7451, dated 9th November 1888, have sanctioned the proposed schemes with slight modifications. The revised proposals of the Chálisgaon

Táluka were approved and sanctioned by Government, with certain modifications, in their Resolution No. 641, dated 24th January 1889, in the Revenue Department. The inquiry into forest rights of 2 out of 14 Inám villages remaining to be dealt with, was also completed on 31st July 1888. Mr. Dodgson proceeded on three months' privilege leave, handing over charge to Mr. Fraser, C. S. On his return from leave Mr. Dodgson was engaged in the Páchora Táluka in making local inquiries concerning the existence of rights over land intended to be included in reserved forests which had been notified under Section 4 of the Act under sanction of Government Resolution No. 2478, dated 24th April 1888, in the Revenue Department, and also in making inquiries into the existence of rights over certain lands hitherto occupied but recently notified under Section 4 of the Forest Act, in the Sávda Táluka: he then returned to the Dhulia Táluka and continued the inspection and selection of old protected forests for conversion into reserved forests; and on completing this work he proceeded to the Shirpur Táluka and demarcated the boundaries of Bhil settlements, and from thence passed on to the Akráni Parganá, inspecting the boundaries of the Akráni Toranmál Reserve and the Bhil settlements situated inside the reserve; this work was still unfinished at the close of the year. Rs. 5,999-8-0, sanctioned in Government Resolution No. 8680, dated 28th December 1888, were expended in purchasing 842 $\frac{31}{40}$ acres of occupied lands in the Bhusával Táluka. Thus it will be seen that considerable progress was made and excellent work performed by Mr. Dodgson during the year; and Forest conservancy in the Khándesh Collectorate, in so far as reservation of lands for forest preservation is concerned, is established upon a substantial foundation.

33. There has been no special Forest Settlement Officer for the Násik Collectorate as demarcations were nearly completed last year. The forest area has undergone but little change, except in the Peint and Igatpuri Tálukás, where some forest tracts were added to the reserved forests to give solidity and compactness to previous selections. The demarcation of Peint was sanctioned last year, but it has been recorded that stretches of well timbered forest lands have not been included in the selected reserved forests where their inclusion would solidify and connect forest blocks naturally continuous but now detached. The demarcation of the Igatpuri Táluka was sanctioned in Government Resolution No. 3770, dated 11th June 1888, Revenue Department. The only táluka in which any considerable additions to reserves may yet be made is Dindori, where the final notifications under Section 19 of the Act remain still to be issued. Minor additions were made to Násik, Dindori, Chándvad, Báglán and Kalvan Tálukás, and some slight exclusions from the forest areas in the Igatpuri, Yeola and Báglán Tálukás.

34. Mr. Woodburn, C.S., was in special charge of the Forest Settlement Office, Ahmednagar, from 1st April to 30th June 1889, Mr. C. B. Winchester, C.S., in charge from 1st July to 5th September, and Mr. V. B. Vádekor, Deputy Collector, from 6th September till the close of the year; the two latter officers conducted the office, in addition to their own Revenue and Magisterial duties. 759 acres and 33 gunthás of occupied lands which are included in sanctioned demarcation schemes were purchased during the year at an expenditure of Rs. 2,606-12-10. Inquiry for the determination and settlement of lands already notified under Section 4 was also carried on, and some of the lands have been finally notified under Section 19. Government, in their Resolution No. 4661, dated 13th July 1888, in the Revenue Department, approved and sanctioned certain changes in the demarcation of eight villages in the Sangamner Táluka. These changes provide for:—

(*a*) the disforestation of 286 acres and 39 gunthás,

(*b*) the exclusion, from the demarcation, of 21 acres and 3 gunthás of waste lands,

(*c*) the acquirement of 747 acres and 25¾ gunthás of occupied lands,

and in their Resolution No. 2483, dated 30th March 1889, in the Revenue Department, Government sanctioned the modifications proposed by Mr. Woodburn of the original demarcation of the Akola Táluka.

35. There was no special Demarcation and Settlement Officer in the Poona Collectorate; therefore such demarcation and settlement work as remains to be completed has been carried on at different times by one of the Assistant Collectors in charge of the Revenue sub-divisions, in addition to his own Revenue and Magisterial duties; the office came under the following officers:—

Mr. Silcock, C. S., from 1st April to 5th June.
„ Logan, C. S., from 6th June to 6th August.
„ Symonds, C. S., from 7th August to 18th August.
„ Gibb, C. S., from 19th August to 31st March 1889.

36. Mr. Silcock had, up to the date of his departure, completed the settlement of the Khed and Háveli Tálukás and A'mbegaon Petha: he also effected the final settlement of the Koita holdings in Khed and A'mbegaon. His proceedings regarding the Bhiwegaon Koita holdings have been approved of by Government in their Resolution No. 4471-80 (Confidential), dated 7th July 1888, in the Revenue Department. The Demarcation and Settlement Report of the Háveli Táluka, referred to in paragraph 28 of last year's report, received the sanction of Government, in their Resolution No. 1327, dated 16th February 1889, Revenue Department; and the modifications recommended by Mr. Silcock in his supplementary report on the Junnar Táluka were sanctioned by Government in their Resolution No. 4826, dated 20th July 1888, in the Revenue Department. The Settlement Report of Mulshi has also received the sanction of Government in their Resolution No. 5471, dated 13th August 1888, Revenue Department, but a further reference has been made to Government upon some minor points.

37. Forest settlement enquiries in the eastern portion of the district were made by Mr. Gibb from November to the end of March. Supplementary enquiries were also made as regards all forests in the several ranges. Complete records of rights have been drawn up; and thus, with the exception of Donja, a large forest village in the Haveli Táluka, and of the Singhar forests, the settlements of the district have all now been completed. 83 acres and 14 gunthás of occupied lands were acquired by purchase, the compensation amounting to Rs. 240, and 572½ acres of occupied lands were obtained by exchanges. The total area acquired amounted to 655 acres.

38. No special officer was employed in the Sátára Collectorate to carry on the settlement and demarcation work, but it was entrusted to the Deputy and Assistant Collectors in their Revenue sub-divisions. The officers engaged were Messrs. Snow, C. S., L. G. Deshmukh, and Scott. No fresh demarcation work was undertaken during the year. The Forest Settlement and Demarcation Report of the Válva Táluka, referred to in paragraph 29 of last year's report, was sanctioned by Government in their Resolution No. 7348, dated 5th November 1888, in the Revenue Department, but that of Pátan is still before Government. The negotiations entered into with Inámdárs, regarding the assignment of certain areas selected in their respective villages for purposes of forest conservancy, have not met with success; almost all the Inámdárs refuse to transfer the management of these lands to Government. Rs. 376-7-0 were expended in payment of compensation for acquiring 132 acres and 1 guntha of occupied lands for forests.

39. There is no demarcation left to be done in the Sholápur Collectorate, but Mr. B. R. Heblikar, District Deputy Collector, was Forest Settlement Officer, in addition to his Revenue duties. His work was confined to the settlement of lands which have been already included in the demarcation schemes of all the tálukás sanctioned by Government. 1,196 acres and 29 gunthás of lands were notified under Section 19 after the completion of the inquiries required by Chapter II of the Forest Act, into the existence of rights, &c.; and 17 acres and 30 gunthás were disforested during the year.

40. No demarcation work has been performed in the Surat Collectorate. There is, however, a considerable quantity of forest-land and waste-land, covered with a fair growth of teak and other trees in the Mándvi Táluka, available for forest conservancy, and required to perfect the existing scheme.

41. In the Panch Mahál Collectorate the demarcation and settlement of all the ranges had been completed last year. The only notification still to be

issued under Section 19 is that dealing finally with an area of 881 acres provisionally notified under Section 4 in Hálol. The question, as to whether the forests of the Hálol Mahál are to remain "Reserved" or to become "Protected", referred to in paragraph 32 of last year's Administration Report, has been decided, Government having ordered that they should remain Reserved Forests.

42. In the Kálol and Hálol Ranges the forest conservancy schemes are satisfactory in so far that all the forests are reserved and finality has been secured, but in the more important Range, Godhra, such is not the case. A considerable proportion of the natural forest area, which contains a valuable growth of timber, the maintenance of which is important upon other considerations than commercial, has been transformed into "Protected Forest," and a state of uncertainty prevails which interferes with the demarcation of forest boundaries upon the ground, and the application of systematic working arrangements.

43. The following Resolutions containing the final orders of Government were passed during the year on the Settlement and Demarcation Reports of Kálol, Jhálod and Dohad:—

No. 3280, dated 22nd May 1888, Revenue Department.
No. 332, dated 14th January 1889, Revenue Department.
No. 815, dated 1st February 1889, Revenue Department.

Under the orders contained, these valuable forests also, which protect uncultivable drainage slopes, remain protected forests, and their power of serving the general welfare of the part of the country in which they are placed is very appreciably decreased, because they are subjected to treatment which tends to destruction and in no sense to continuance and improvement.

44. No fresh selections of forest areas have been undertaken in Native States by Forest Officers from the Northern Circle during the year. The demarcation scheme of the Sudhágad Táluka of the Bhor State was finally sanctioned by Government in their Resolution No. 4917, dated 24th July 1888, in the Revenue Department. Mr. Shitárám Dámodar's report upon the Fife Lake catchment, which had not been received up to 31st March 1888, as stated in paragraph 36 of last year's report, was disposed of by Government in their Resolution No. 2479, dated 29th March 1889, Revenue Department, whereby, in respect of the Fife Lake catchment, Mr. Shitátám Dámodar's proposals, although not regarded as being altogether satisfactory and adequate, were accepted as a basis for the work, Government considering it to be impossible to recommence a fresh demarcation *de novo*. Mr. Shitárám Dámodar's scheme dealt with 73 villages wherein the Forest Committee, presided over by Mr. Joshua King, C. S., had proposed to reserve 54,616 acres under forest conservancy, or about $\frac{9}{16}$ of their total area. Mr. Shitárám whittled this down to 25,518 acres nominally, of which, however, 13,749 acres belong to the Pant's Government and 11,769 acres are the property of Inámdárs, and cannot be interfered with, for the present in any case; and practically, therefore, the protection to be afforded to the Fife Lake catchment is restricted to 13,749 acres, a proportion wholly insufficient to prevent an appreciable deposition of silt occurring every year, and from the experiments—partial and defective though they be—which have been made, and which exhibit a silt deposit rate during the rains of about 8 inches, it may possibly be said that the life duration of the lake has been brought within the range of arithmetical calculation.

45. The services of two Forest Officers, from the Northern Circle, Messrs. W. G. Clabby, Acting Assistant Conservator of Forests, 3rd Grade, and Wáman Gopál Tumne, Acting Ranger, 1st Grade, were lent to Foreign States during the year. Mr. Clabby has been sent to the Rájpipla State to be Forest Officer upon a gross salary of Rs. 466-10-8 *plus* Rs. 150 permanent travelling allowance, in order to introduce forest conservancy under the orders of the Administrator of that State; and Government in their Resolution No. 5494, dated 14th August 1888, in the Political Department, directed the transfer. Mr. Wáman Gopál Tumne has been sent to Káthiáwár to serve under the Political Agent upon a gross salary of Rs. 121, per mensem, *plus* Rs. 15 travelling allowance, for a period of two years, in order to select lands for plantations and for forest conservancy.

46. Mr. Walabhrám Mulji Bhat, Ranger, 2nd Grade, whose services had been lent to the Gondal State in 1883-84 as Superintendent of Forests, returned to British service during the year under orders contained in Government Resolution No. 7449, dated 9th November 1888.

2.—FOREST BOUNDARIES.

47. A special forest boundary-mark has been prescribed for the Northern Circle, a specification of which is given in paragraph 31 of the Forest Administration Report for the year 1886 87, and in order to make the indication of the boundary lines clearer the following supplementary instructions were given during the year:—

(1). Three small stones are to be embedded in the ground at distances of six feet apart from the sides of the cairn, and to show a few inches above ground, in order to serve as pointers, to point out the direction of the boundary lines from the centre of the cairn.

(2). A dab of red colour to be given annually to each of the pointers at the time that the centre or indicating stone of the boundary cairn is colour-washed.

The work of demarcation by the erection of forest boundary-marks was carried on vigorously in the several divisions of the Northern Circle, in accordance with the standing orders. 33,958 boundary cairns, both large and small, were erected during the year at a cost of Rs. 11,948, as will be seen from the following table :—

No.	Division.	Length of Boundaries in Miles.	Number of Cairns erected.			Cost.		
			Large.	Small.	Total.			
						Rs.	a.	p.
1	North Thána	46	976	...	976	744	1	6
2	South Thána	95	800	1,680	2,480	1,249	10	0
3	East Khándesh	40	1,648	...	1,648	615	10	6
4	West Khándesh	469	566	943	1,509	481	10	0
5	Násik	713	778	10,634	11,412	3,554	3	2
6	Ahmednagar	52	202	412	614	271	2	6
7	Poona	581	1,786	7,007	8,793	2,809	10	9
8	Sátára	28	44	1,319	1,363	145	14	1
9	Sholápur	99	1,463	1,030	2,493	1,326	8	0
10	Surat	8	100	...	100	58	2	0
11	Panch Maháls	134	193	2,377	2,570	691	13	0
	Total ...	2,265	8,556	25,402	33,958	11,948	5	6

48. Although the demarcation of forest boundaries upon the ground by providing outward visible signs of forest reservation in the shape of a special forest boundary-mark, which from its peculiar construction, &c., will be known as a forest boundary-mark, wherever it may be seen, has made considerable progress, still the greater portion of this most important work remains to be undertaken, and several years must elapse before all the forest boundaries in every division are finally marked out in the manner prescribed.

3.—FOREST SETTLEMENT.

49. In the Thána Collectorate settlement inquiries were commenced in the tálukás of Máhím and Dáhánu, where the Divisional Forest Officer, Mr. Wilkins, had prepared and submitted lists of lands selected by him for permanent forest reservation in the Máhím, Dáhánu and Umbargaon Ranges, and all these forest-lands, the greater portions of which are protected forests gazetted under Section 34 of the Forest Act, had been notified provisionally under Section 4 of the Forest Act. The settlement inquiries which were in progress in the Váda Táluka, as recorded in paragraph 38 of last year's report, were completed during the year.

50. The reference to Government mentioned in paragraph 38, clause 2 of last year's report, regarding the decision of the Collector of Thána, was disposed of by Government, in their Resolution No. 6067, dated 7th September 1888, in the Revenue Department, referring the Conservator of Forests to the Commissioner, Northern Division, for orders. A reference was then made to the Commissioner, who in his No. 3312, dated 19th October 1888, sanctioned the appropriation, for reserved forest, of the lands in question.

51. The appeal to Government under Section 21 of the Forest Act, referred to in paragraph 38, clause 5, of last years's report in connection with certain rights in the village of Ghátkoper, awarded by the Forest Settlement Officer, was disposed of by Government during the year, in their Resolution No. 957, dated 6th February 1889, in the Revenue Department, whereby the decision of the Collector of Thána was not interfered with.

52. Ráo Sáheb Vishnu Rámchandra, Special Officer, Tánsa Water-works, has been appointed Forest Settlement Officer in respect of the occupied and other lands upon the Tánsa Lake catchment area, which have been acquired for afforestation.

53. In the Khándesh Collectorate Mr. Dodgson, C. S., has continued settlement proceedings. No rights, save of way and of water access, have been found to attach to any of the forests.

54. In the Collectorates of Násik and Ahmednagar the forest settlement has been practically completed. Certain lands, however, which have been notified recently under Section 4 were undergoing inquiries during the year.

55. In the Poona Collectorate the settlement work has been nearly completed. The reference made to Government regarding the decision of the Collector mentioned in paragraph 42, clause 2 of last year's Administration Report, was disposed of by Government Resolution No. 6067, dated 7th September 1888, Revenue Department.

56. In the Collectorates of Sátára, Sholápur, Surat and Panch Maháls no regular settlement work was undertaken during the year, beyond inquiries into rights, &c., respecting a few survey numbers which were previously occupied by survey tenants but had been recently acquired for forests and had been provisionally notified under Section 4 of the Forest Act.

57. The following statement will show the progress made during the year in forest settlements of the old forest areas which had been gazetted under Section 34 of the Forest Act in March 1879 :—

Class of Forest.		At the commencement of the year, Areas under Section 34 in which Private Rights have not been enquired into, settled and recorded.	Areas settled during the year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year Areas under Section 34 in which Private Rights have not been enquired into, settled and recorded.	Remarks.
			Chapter II of the Forest Act.	Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
Northern Thána...	Reserved ...	201	...	...	...	...	201	
	Protected ...	291	...	...	...	...	291	
Southern Thána...	Reserved ...	99	...	...	...	...	99	
	Protected ...	329	...	...	...	...	329	
Eastern Khándesh	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Western Khándesh	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Násik	Reserved ...	84	...	...	...	...	84	
	Protected ...	...	...	...	...	...	...	
Ahmednagar ...	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Poona	Reserved ...	192	...	...	...	...	192	
	Protected ...	...	...	...	...	...	...	
Sátára	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Sholápur	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Surat	Reserved ...	733	...	...	...	...	733	
	Protected ...	...	...	...	...	...	...	
Panch Maháls ...	Reserved ...	152	105	...	4	...	43	
	Protected ...	...	...	...	...	...	...	
	Total ...	2,081	105	...	4	...	1,972	

58. This statement does not show all the settlement work accomplished during the year, but only the progress made in the settlement of the old forest lands which had been gazetted under Section 34 of the Forest Act in March 1879.

4.—PRIVILEGES CONCEDED TO VILLAGERS.

59. Except in the Collectorates of Khándesh and Panch Mahál no changes have taken place during the year in the nature and extent of privileges previously conceded in reserved and protected forests, in all other Collectorates of the Northern Circle.

60. The code of privileges which was introduced last year in the Khándesh Collectorate under the authority of Government Resolution No. 7197, dated 22nd October 1887, was subjected to reconsideration by a Committee of local Revenue and Forest Officers, which met at Dhulia during the rains of 1888, and revisionary proposals were made to Government, which were sanctioned in Government Resolution No. 243, dated 11th January 1889, in the Revenue Department. The modifications thus effected are :—

(1*st.*) A rule that no privileged person shall be allowed to exercise his privileges by proxy, *viz.*, to send another person into the forests to take or enjoy that which has been conceded to him personally.

(2*nd.*) Interpretation given to the term "an inhabitant of a forest village" that it shall mean a permanent resident of the forest village.

(3*rd.*) Of minor forest produce, fruits of mango trees and Rosha grass are not at the disposal of privilege-holders but are reserved to Government.

(4*th.*) Four kinds of trees were added to the list of reserved trees, *viz.* Kalamb (*Nauclea parvifolia*), Háladvan (*Nauclea cordifolia*), Bor (*Zizyphus jujuba*), and Temru (*Diospyros montana*).

(5*th.*) An enhanced scale of grazing fees was introduced for professional graziers at the following rates :—

	Rs.	a.	p.
Cows and bullocks	0	6	0
Buffaloes	0	8	0
Calves under 1½ years	0	2	0
Sheep	0	1	0
Goats	0	4	0
Ponies, horses and donkeys ...	0	4	0

61. In the Panch Mahál Collectorate the extensive and, from a forestry point of view, destructive privileges which had been provisionally conceded in respect of the forest reservations in the Dohad and Jhálod Tálukás were confirmed during the year under the authority of Government Resolutions Nos. 332 and 815, dated 14th January and 1st February 1889. These privileges are—

(1.) *Grazing.*—Free for agricultural cattle.

(2.) *Grass-cutting.*—Free.

(3.) *Thorns and leaves.*—Free.

(4.) *Minor forest produce.*—Free, including mhowra.

(5.) *Dead wood*—Head-loads free.

(6.) *Green wood.*—To cut all but 17 kinds of reserved trees for *bonâ-fide* domestic and agricultural purposes, when the wood is not obtainable elsewhere.

(7.) *Earth and Kankar.*—Free for domestic and agricultural purposes.

62. The forests of Jhálod and Dohad Ranges occupy the sides and tops of low hills where the ground is very rough, broken and steep, and where cultivation cannot, under any devices, find a permanent abiding place. The uplands and drainage slopes, when covered by dense forest growth, serve as natural reservoirs

for catching, impounding and distributing the rain water which falls upon them and supplying moisture to, and providing for, the natural irrigation of the cultivation down below in the plains. So long as these forests are well preserved they may be regarded as a Famine Insurance Fund, for they will provide fodder when there is no grass in the country and all outside the forests is parched and brown, and they will feed the subterranean arteries of natural irrigation, supplying water to wells for garden cultivation, &c., and will distribute water and moisture in other ways for the benefit of agriculture, at times when the rains are holding off. But when forests are exposed to the destruction of all but 17 kinds of trees, some of which are scarce, by villagers under no professional regulation, it follows that large blanks are created inside the forests in places where the reserved trees are few in number or sparsely represented, and that the latter are injured by sudden exposure to side light and to the action of winds, &c. Light is the deity trees worship, to which they turn in silent adoration; when trees are growing in close association, protecting each other in the healthy race towards the light overhead, clean cylindrical stems are produced, and good valuable timber, poles, &c., result. Forests into which a population is permitted to come and go at pleasure, with wood-cutting implements, fire, &c., to cut and take timber and other forest produce, are obviously difficult of protection against conflagrations and are liable to deterioration rather than improvement in respect of the trees which are forbidden to be cut. Forests thus circumstanced are upon the high road to utter destruction, and are a long way removed from the path to improvement. It is invariably urged in support of concessions and of free gifts of public forest property that liberal treatment in the supply of the domestic wants of the poor people inhabiting forest villages has always been considered necessary as an incentive to enlisting their co-operation in forest conservancy. This may be a commendable truism, but it depends upon the nature and extent of the "liberal treatment" as to whether the object is gained or not; when the treatment means a privilege of cutting and removing the trees, the presence of which in natural beauty and vigour is the symbol of forest conservancy, then it goes without saying that the treatment is radically wrong, for it can by no contrivances secure that object for the extinction of which all its energies are co-operating. A free gift to poor forest villagers of the whole, or of a share, of the actual annual produce of forests exploited under the due and regular working of Forestry becomes a simple financial question, and does not affect the well being of the forests themselves from which the timber, &c., may be removed; and liberal treatment of this description may possibly enlist sympathy and assistance in forest conservancy. It is not the revenue, or the interest legitimately accruing from the forest, to the sacrifice of which the Forest Officer so strongly objects, although his duty compels him to secure to the general revenues of the State, for the public good, the maximum interest the forests in his care and under his professional management are capable of yielding. It is the destructive attacks made upon the capital, dissipating the latter, and rendering the continuance of interest impossible, which the Forest Officer, from his professional education, perceives, when it is not apparent to the uninitiated, and which he finds so sore a burden n his conscience.

63. The expenditure incurred upon the formation and constitution of reserved and protected forests in the Northern Circle during the year has amounted to Rs. 90,053-12-2, distributed thus :—

	Rs.	a.	p.
(1) Salaries and travelling allowances not charged against the Forest Department	33,990	2	1
(2) Salaries and travelling allowances of establishments employed under the Forest Settlement Officers and charged in the forest accounts, and the contingent expenditure of the latter... ...	12,102	0	1
(3) Demarcation of forest boundaries upon the ground by the construction of special forest boundary-marks	11,948	5	6
(4) Compensation for land and rights	32,013	4	6
Total ...	90,053	12	2

CHAPTER II.

SURVEYS AND WORKING PLANS.

(*A*).—SURVEYS.

64. The institution of a special Forest Survey Branch for conducting topographical surveys of the forests of the Bombay Presidency is undoubtedly the historical event of the year, for it is a distinct and a remarkable advance in the march of progress. The Government of India, in their letter No. 1095, dated 5th November 1888, embodied in Government Resolution No. 7704, dated 19th November 1888, in the Revenue Department, approved and sanctioned the proposals of the Government of Bombay, regarding the general scheme for the conduct of forest surveys, which was discussed and agreed to at a conference of high officers of the Government of India and of the Bombay Government held at Poona on the 19th July 1888. These proposals provide :

1*st*.—One Survey Party of the Topographical Survey of India, fully equipped and manned, to be placed at the disposal of the Bombay Government for the purposes of Forest Surveys in this Presidency.

2*nd*.—The Survey Party to be utilised for Forest Survey purposes in such manner as the Bombay Government may direct.

3*rd*.—The cost of the party to be debited to "Forests": in other words half its cost to be borne by Imperial and half by Provincial Revenues.

4*th*.—The normal scale for the forest survey maps to be one of 4 inches to the mile, but on sufficient cause being shown by the Conservator of Forests, the Bombay Government may direct that the survey and maps of any special forest block or area be made on the 8 inches to the mile scale.

5*th*.—The map to be printed at the Poona Government Photozincographic Press, the charge being debited to "Forests."

6*th*.—Colonel Pullan, B. S. C., to be placed in charge of the Forest Survey Party as Superintendent of Forest Surveys, Bombay.

7*th*.—The officer at the head of the party to be granted the same travelling allowance as a Conservator of Forests and is to be under the control and supervision of the Survey and Settlement Commissioner, supervision over his work being also maintained by the Surveyor General of India.

8*th*.—The topographical survey of the non-forest portion of Kánara to be made by the Survey Party on the 2 inches to the 1 mile scale, and the Forest Survey to receive credit to the extent of Rs. 10,000 per annum on account of this work.

9*th*.—The annual cost of the Forest Surveys to be estimated at Rs. 71,000.

These arrangements came into effect from 1st October 1888.

65. The Forest Survey Parties were working during the year in the Districts of Násik, Thána, Poona and Sátára, and much useful work has been accomplished.

66. The following statement will show the progress reported to have been made during the year :—

District.	Triangulation.	Traverse.	Detail Survey.			Cost.	Remarks.
			W. L. 8".	8".	4".		
						Rs.	
Násik	264·0	328·39	...	121·486	112·48	11,714	Nándgaon, Málegaon and part of Yeola Táluka.
Thána	180·0	64·47	17·991	...	...	4,908	Karjat, Bhiwndi and Kalyán Tálukás.
Poona	40·0	180·0	...	...	128·52	8,739	Máwal Táluka.
Sátára	...	228·0	...	...	76·0	5,504	Wái Táluka.
Násik and Thána ...	...	...	...	...	...	11,409	Amount spent on preparation of fair sections of Nándgaon and Karjat Tálukás.
Total ...	484·0	800·0	17·991	121·486	317·0	42,274	

67. It is impossible from the above figures to arrive at any correct average of the cost per square mile of the survey on either the 8″ or the 4″ scale, or to make a comparison with the cost incurred and the rates of previous years; but the Superintendent of Forest Surveys, Colonel Pullan, reports that the 8 inches survey has cost Rs. 187 per square mile and the 4 inches survey Rs. 65 per square mile, excluding mapping. These results show great improvement upon the rates of the two years preceding, for in 1886-87 the 8 inches survey cost Rs. 257 per square mile and in 1887-88 Rs. 272 per square mile. The work performed during 1888-89 would seem to be:

		Square miles.		
8″ scale	...	139·477,	cost Rs.	22,619.
4″ ,,	...	317·	,,	20,605.

and the total cost of the Forest Surveys charged to the Northern Circle against the year amounts to Rs. 43,224.

68. That the present arrangement will provide excellent and highly useful maps upon the 8″ scale is unquestionable, but that the survey operations, in so far as the Northern Circle is concerned, are as economical and serviceable to the forest administration as might be, is a moot point. With reference to the forest maps on the 4″ scale, it should be remembered that the Conservator of Forests, Northern Circle, arranged with the Surveyor General, when the topographical survey of the districts comprising the Northern Circle was in progress, for the forest countries of the Thána and Panch Maháls Collectorates and of the leased Dángs to be surveyed and mapped upon the 4″ scale, the Forest Department paying at the rate of Rs. 50 per square mile for this survey, being the difference in cost between the ordinary 2 inches and the special 4 inches surveys. The undermentioned areas were thus surveyed and mapped on the 4″ scale:—

1. Násik Collectorate	...	...	...	42·6 Square miles.
2. Thána Collectorate	...	...	...	2698· ,,
3. The Leased Dángs	...	...	...	655·5 ,,
4. The Panch Maháls	...	...	...	874·6 ,,
				,,
			Total ...	4,270·7 ,,

At Rs. 50 per square mile the total cost amounted to Rs. 2,13,500, which includes the supply of copies of each map without additional charge. Compared with the rates given by the Forest Survey Branch for forest maps on the same scale, Rs. 80 per square mile for Northern and Central India, a saving of Rs. 30 per square mile, or Rs. 1,28,100 in the total cost, would appear. The present arrangement is not so serviceable as might be, because the Forest Survey parties will not undertake the *parcellement* of the forests; they will not break up the forest blocks into compartments, surveying and marking out upon the ground the boundaries of these compartments, and consequently after the survey maps have been received, and in many cases before the maps are prepared, the Forest Officers have, by the agency of their own surveyors, to lay out and mark out the sub-divisions of forest blocks; and thus the same ground is gone over twice.

69. Experience of the map on the 4″ scale having demonstrated to the satisfaction of the Conservator and of the Divisional Forest Officers that the maps on this scale were practically inefficient for the elaboration of working plans based on area where the compartments and the coupes are, in force of local circumstances, of small size, and the country is rough and difficult, a reference was made to Government representing the advisability of adopting the scale of 8 inches =1 mile for all the teak reserves in the Northern Circle and for all the forests of the two Thána divisions: and Government in their Resolution No. 11, dated 3rd January 1889, sanctioned this proposition. It is improbable that in any other part of India the forests are worked upon a system of numerous small fellings distributed over a district. In the Thána Collectorate 230 coupes have been marked out for the season 1889-90, of which 130 are in North Thána and 100 in the South Thána Division. The average area of each of these 230 small fellings is 48 acres. A compartment of this size is, for all practical use, not discernible upon a map of the scale of 4 inches = 1 mile. In the bábul reserves of the Deccan Districts, which are located chiefly upon the

banks of rivers, the coupes average from 3 to 5 acres in area, because the erosive force of floods in the rivers would scour away the soil were extensive tracts to be cleared of trees upon these riparian estates which are subject to inundations; no map of *the least utility* of a 3 to 5 acres compartment could be produced, and it would be a simple waste of money to prepare elaborately surveyed forest maps, on the 4″ scale of the teak forests and the bábul forests, which are necessarily worked in this careful manner, and which contribute largely towards an expanding revenue of nearly 12 lákhs of rupees. Thus it will be seen that forest maps, on the cheaper scale of 4 inches = 1 mile, however admirably they may serve for all practical purposes for which forest maps are required in Northern or Central India where conditions are totally different, would be inefficient for a great portion of the Northern Circle.

(*B*).—WORKING PLANS.

70. Mr. T. B. Fry, Deputy Conservator of Forests, 3rd Grade, was in charge of the Working Plans Division throughout the year, with the exception of three months during the recess season while on privilege leave; and during this period Mr. R. C. Wroughton, Divisional Forest Officer of Poona, held charge of the office in addition to his own duties.

71. No alteration was made in the scale of the office establishment during the year, but a field establishment was entertained at different periods of varying strength within the sanctioned limit of cost according to the work required to be done.

72. The operations of the Working Plans Division were carried on in accordance with the system detailed in paragraph 67 of last year's report. The whole of the forest area included under Reserved Forests, and in certain tálukás under Protected Forests, in the two Divisions of the Thána Collectorate, was thus treated; and the following statement will show the particulars of the differentiation which has been effected:—

No.	Name of Range.	Total Area.	Number of Blocks per Range.	Number of Compartments actually laid out in 1888-89.	Average Area of Compartment.	Remarks.
	North Thána Division.	Acres.			Acres.	
1	Máhím	81,000	41	41	49	The number of compartments laid out is less than the number of blocks, because, *1st*, all blocks are not yet worked; *2nd*, blocking work was only completed late in the year; *3rd*, compartment work was completed in many Ranges either before April 1888 or after the 31st March 1889; *4th*, in certain cases compartments had not been felled.
2	Váda	80,320	25	28	80	
3	Umbargaon	35,889	15	9	62	
4	Dáhánu	70,884	28	22		
5	Sálsette	14,641	10	6	36	
6	Bassein	52,255	23	...	57	
	South Thána Division.					
7	Sháhapur and Khardi ...	157,812	53	20	74	
8	Murbád.	66,642	19	11	87	
9	Mokháda	47,540	16	...	74	
10	Bhiwndi	39,803	20	3	49	
11	Kalyán	32,497	17	13	47	
12	Karjat and Khálápur ...	51,954	20	3	65	
	Total ...	731,237	287	156	63	

73. The average area of the compartments of a range is arrived at by dividing the forest area of the range by the number of blocks multiplied by 40, *i.e.*, the number of years in the revolution; and it must be noted that the real average area of a compartment, and more especially of a coupe, is frequently considerably less than the normal area, because in laying out compartments for

working and coupes for exploitation, exclusions are made, from the total areas of blocks, of the portions of the latter where great height and the rugged character of the hills render the forests pratically unworkable, since forest growth upon steep slopes high up and upon scarps, &c., has to be preserved for climatic and mechanical purposes.

74. Satisfactory progress was made towards the erection of forest boundary-marks by the Working Plans Division in the Thána District during the year. With the exception of a few outlying forests of small area, the boundaries of all the reserved forests in Khálápur and Karjat Tálukás were properly defined upon the ground, by erecting 1,586 cairns at a cost of Rs. 970 in time to allow the Forest Survey Party to fix the position of each cairn. And 221 marks were erected in Bassein Range at a cost of Rs. 176. Ninety-five miles of outer forest boundary line were thus defined upon the ground by erecting in all 1,807 cairns at a cost of Rs. 1,146.

75. The average cost of laying out a single compartment, exclusive of the pay of the field establishment, was Rs. 4-12-8 against Rs. 5-13-0 in the preceding year, and the average cost per acre was Re. 0-1-8.

76. Mr. Fry, as usual, delivered lectures on Forestry at the College of Science, Poona, for the students of the Forest class during the rains, and on his departure on leave Mr. Wroughton carried on the duty and conducted the final examination also. Works, such as drawing and colouring in forest boundaries on maps of various scales, the revision of the work done during the season, preparation of block maps, &c., were in progress during the rainy season.

77. The expenditure under *A VIII c.* "Surveys and Working Plans" amounted during the year to Rs. 65,787-2-8, including the cost of Forest Surveys by the Topographical Survey Party of the Government of India, which amounts to Rs. 43,224.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—ESTABLISHMENTS.

78. There was no change during the year in the superior Forest staff allotted to the Northern Circle for the administration of the forests in 12 divisions composing the Northern Circle, which consisted of one Conservator of Forests, and thirteen Deputy and Assistant Conservators of Forests, as in the year before.

79. Messrs. W. S. Hexton and F. R. Desái, Deputy Conservators of Forests, 1st Grade, have been transferred from Sind to the Northern Circle. The following officers belonging to the superior staff were absent on privilege leave for the period stated against their names :—

(1) Mr. W. G. Betham, Deputy Conservator of Forests, 2nd Grade, from 5th April to 10th July 1888 ;

(2) Mr. H. Mainwaring, Deputy Conservator of Forests, 3rd Grade, from 2nd May to 1st August 1888 ;

(3) Mr. H. W. Keys, Assistant Conservator of Forests, 1st Grade, from 9th July to 9th October 1888;

(4) Mr. T. B. Fry, Deputy Conservator of Forests, 3rd Grade, from 6th August to 6th November 1888 ;

(5) Mr. W. S. Hexton, Deputy Conservator of Forests, 1st Grade, from 5th September to 5th October 1888 ;

and Mr. F. Gleadow, Deputy Conservator of Forests, 4th Grade, proceeded on furlough for 18 months on the 15th April 1888.

80. The services of Mr. Hornidge, Assistant Conservator of Forests, 1st Grade, were placed at the disposal of the Government of India for employment in the Central Provinces under orders contained in Government Resolution No. 2022, dated 14th March 1889.

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81. There are 7 appointments of the class Sub-Assistant Conservators of Forests, allotted to the Northern Circle, and they have all been occupied throughout the year. Mr. Náráyan Ballál Oke, Sub-Assistant Conservator of Forests, 1st Grade, proceeded on privilege leave for one month on the 5th December 1888, and having been declared by medical authority to be unfit for further service under Government, his privilege leave was commuted into sick leave, and he finally retired on pension from 7th January 1889.

82. Mr. Ganesh Krishna Sháháne, Sub-Assistant Conservator of Forests, 2nd Grade, was on sick leave from the commencement of the year up to 11th June 1888, and was under suspension from 2nd November 1888 up to the close of the year on several charges of misconduct, of gross neglect of duty, of absenting himself from his charge without leave, and of insubordination, &c., which were brought against him by the Divisional Forest Officer, West Khándesh.

83. The numerical strength and constitution of the Subordinate Forest Protective Establishment has remained unchanged during the year; their monthly cost amounts to Rs. 21,503, and their distribution among the different divisions of the Northern Circle is given in the following statement:—

No.	Forest Division.	Number of Ranges.	Range Forest Officers.							Forest Guards.						Remarks.
			Rangers.				Foresters.									
			Rupees 100.	Rupees 80.	Rupees 60.	Rupees 50.	Rupees 40.	Rupees 30.	Rupees 20.	Rupees 15.	Rupees 12.	Rupees 10.	Rupees 9.	Rupees 8.	Rupees 7.	
1	North Thána ...	6								6	14	25	25	70	89	The pay of the Rangers and Foresters is personal and the men are transferred from one range to another as the exigencies of the service may require. Therefore the number of appointments in each grade is shown in lump for the whole Circle.
2	South Thána ...	8								8	14	25	23	70	115	
3	East Khándesh ...	13								8	16	20	20	40	75	
4	West Khándesh ...	10								7	14	18	18	50	102	
5	Násik	14								10	20	25	26	50	158	
6	Ahmednagar ...	11	3	4	6	12	20	30	30	6	12	22	22	50	85	
7	Poona...	11								9	17	26	25	60	120	
8	Sátára...	14								9	18	24	22	57	102	
9	Sholápur	7								3	6	11	8	16	68	
10	Surat	6								2	4	4	6	18	27	
11	Panch Mahális ...	5								2	5	10	10	30	48	
	Total ...	105	3	4	6	12	20	30	30	70	140	210	205	511	980	

84. The temporary protective establishment which was in entertainment, last year, in the Poona and Násik Divisions to strengthen the permanent staff for the proper conservancy of the forests, continued at the same strength during the year:—

No.	Division.	Forest Guards.		
		Rs. 8.	Rs. 7.	Total.
1	Poona	15	30	45
2	Násik	3	3	6
	Total ...	18	33	51

85. All the Divisional Forest Officers in the Northern Circle complain that conservancy and works in their respective divisions suffer owing to the numerical insufficiency of forest guards, and of higher class subordinate officers to supervise and direct the beat-guards, and to act as overseers on works, and that the revenues derived from the forests would be greater if the forests were to be more closely protected, and worked more up to their capabilities, which can only be done by the agency of increased establishments together with the curtailment of privileges.

86. The very extensive privileges conceded to, and exercised by, forest villagers in all divisions add to the difficulties of protection, for people come and go into the forests at all times with cutting implements and with fire, and their operations are under no proper control; they cut and take, they set fire to forests and disappear. In paragraphs 76 to 90 of the report of last year the insufficiency

of establishments, and the defects in the constitution of existing establishments have been noted, and propositions have been submitted to Government during the year for a complete re-organization of the subordinate Forest staff.

87. There was no change in the strength and constitution of office establishment during the year. The following table will show the sanctioned complement for the several divisions and their monthly cost:—

No.	Division.	Number and Gradation.										Monthly Cost.
		Clerks.							Peons.			
		Rs. 100	Rs. 80	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 15	Rs. 10	Rs. 9	Rs. 8	Rs.
1	Direction	1	1	1	2	2	2	2	...	1	1	5	579
2	North Thána	...	...	...	1	1	1	1	2	...	1	3	203
3	South Thána	...	...	...	1	1	1	1	2	...	1	3	203
4	East Khándesh ...	...	...	...	1	..	1	2	2	...	1	3	183
5	West Khándesh ...	...	...	...	1	...	1	2	2	...	1	3	183
6	Násik	...	...	...	1	..	1	2	2	...	1	3	183
7	Ahmednagar	...	...	...	...	1	1	2	2	...	1	3	173
8	Poona	...	...	...	1	...	1	2	2	...	1	3	183
9	Sátára	...	...	...	1	...	1	2	2	...	1	3	183
10	Sholápur	...	...	...	...	1	1	2	1	...	1	3	158
11	Surat	...	...	...	1	...	1	2	2	...	1	3	183
12	Panch Mahála	...	...	...	...	1	1	2	1	...	1	3	158
13	7 Sub-Assistant Conservators' offices ...	...	...	...	...	...	...	...	7	...	...	14	217
	Total ...	1	1	1	10	7	13	22	27	1	12	52	2,789

88. The total expenditure incurred upon Forest establishments during the year has amounted to Rs. 4,60,100-7-6 under the following Budget sub-heads:—

	Rs.	a.	p.
B. *I. a.*—Conservator's salary	18,000	0	0
B. *II. a.*—Conservator's travelling allowance ...	2,400	0	0
B. *I. b.*—Superior officers' salary	1,01,985	11	10
B. *II. b.*—Superior officers' travelling allowance ...	25,688	12	5
B. *I. c.*—Subordinate protective establishments' salary	2,53,131	0	6
B. *II. c.*—Subordinate protective establishments' travelling allowance	14,524	5	3
B. *I. d.*—Office establishments' salary	33,084	15	0
B. *II. d.*—Office establishments' travelling allowance.	11,285	10	6
Total ...	4,60,100	7	6

2.—GENERAL PROTECTION AND BREACHES OF THE FOREST LAW.

89. The following statement gives the number and result of prosecutions of Forest offences during the year as compared with that of the past year:—

No.	Division.	1887-88.		1888-89.		Percentage of Failures.	
		Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1887-88.	1888-89.
1	North Thána ...	61	22	72	34	36·0	47·2
2	South Thána ...	185	34	209	51	18·3	24·4
3	East Khándesh ...	15	5	48	15	33·3	31·2
4	West Khándesh ...	71	20	126	27	28·1	21·4
5	Násik	79	19	48	5	24·0	10·4
6	Ahmednagar ...	53	14	53	15	26·4	28·3
7	Poona	66	20	279	47	30·3	16·8
8	Sátára	44	10	44	17	22·7	38·6
9	Sholápur	77	23	101	34	29·8	33·6
10	Surat	33	3	9	...	9·0	...
11	Panch Mahála ...	25	1	42	10	4·0	23·8
	Total ...	709	171	1,031	255	24·1	24·7

90. Out of 1,139 cases, made up of 112 cases that were pending at the close of last year and 1,027 new cases presented during the year, 1,031 were disposed of, as shown above; leaving 108 cases pending at the close of the year in the different divisions as under :—

No.	Division.	Number of Cases.
1	South Thána	14
2	East Khándesh	2
3	West Khándesh	20
4	Násik...	14
5	Ahmednagar	6
6	Poona	33
7	Sátára	1
8	Sholápur	18
	Total ..	108

91. In consequence of the exemption of timber and other produce growing in private lands from the operation of the rules under Section 41 of the Forest Act, and to the ease with which timber illicitly cut in Government forests can be passed off as coming from málki lands which adjoin and interlace the former, the detection of offenders continues to be of considerable difficulty, especially with a staff of forest guards numerically insufficient to maintain close watch over, so as to effectively protect, the extensive areas of forest-land which have been constituted Reserved and Protected Forests.

92. From the statement given above it will be seen that there is an increase of 322 in the number of prosecutions as compared with the figures of last year; this increase is due to increased vigilance on the part of the protective staff. The percentage of failures in prosecutions is about the same as obtained last year.

93. The classification, as prescribed by the Forest Department Code, of Forest offences in respect of which prosecutions have been instituted during the year is given in the following table :—

No.	Division.	Character of Offences.				Remarks.
		Injury to Forest by fire.	Unauthorized felling or appropriation of Wood and minor Forest Produce.	Grazing without permission or in tracts in which Grazing is prohibited.	Other Offences.	
1	North Thána ...	...	57	.....	8	
2	South Thána ...	1	173	3	27	
3	East Khándesh ...	...	31	3	8	
4	West Khándesh ...	11	16	2	78	
5	Násik	...	35	10	7	
6	Ahmednagar ...	...	12	18	20	
7	Poona	...	82	197	33	
8	Sátára	2	20	10	5	
9	Sholápur	1	5	81	22	
10	Surat	...	5	.....	2	
11	Panch Mahals ...	...	38	.....	4	
	Total ...	15	474	324	214	

94. The Forest offences which were detected in the Protected Forests of the unsettled tálukas of the Thána Collectorate were disposed of by Assistant Collectors in accordance with Government Resolution No. 7844, dated 3rd

October 1884, under Section 43 of the Land Revenue Code, and do not appear in the foregoing statement :—

Forest Division.	1887-88.					1888-89.					Remarks.
	Number of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	Number of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	
		Rs. a. p.			Rs. a. p.		Rs. a. p.			Rs. a. p.	
North Thána...	13	66 10 0	...	11	31 10 0	42	275 15 0	...	42	275 15 0	
South Thána ...	92	355 9 0	...	92	104 4 2	61	89 6 9	...	61	118 12 3	
Total ...	105	422 3 0	...	103	135 14 2	103	365 5 9	...	103	394 11 3	

95. Some serious cases of dálhi cultivation made unauthorizedly within Reserved Forests in the Karjat and Khálápur Ranges of the South Thána Division occurred during the year. The Thákurs on the slopes of Mátherán were detected encroaching deliberately on the Government forests, cultivating by means of the axe and fire beyond the limits of the lands which had been allotted to them and had been demarcated by stone cairns; and by orders of the Collector heavy assessment was taken from the offenders in respect of the forest areas cleared and cultivated by them.

96. The following is a comparative statement of the number of cases compounded under Section 67 of the Forest Act in the several divisions of the Northern Circle :—

Number.	Division.	Taken into Court.		Compromised under Section 67 of the Forest Act.		Total Number of Cases.	
		1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
1	North Thána	68	65	26	38	94	103
2	South Thána	191	204	182	306	373	510
3	East Khándesh	20	42	153	280	173	322
4	West Khándesh ...	72	107	254	454	326	561
5	Násik	83	52	714	1,137	797	1,189
6	Ahmednagar	48	50	2,115	2,199	2,163	2,249
7	Poona	63	312	449	439	512	751
8	Sátára	50	37	186	250	236	287
9	Sholápur	81	109	977	952	1,058	1,061
10	Surat	35	7	21	17	56	24
11	Panch Maháls	25	42	65	82	90	124
	Total ...	736	1,027	5,142	6,154	5,878	7,181

97. The amounts realised on account of cases compounded under Section 67 of the Forest Act in the several divisions of the Northern Circle during the year are as under :—

Number.	Division.	Amount.
		Rs. a. p.
1	North Thána	352 2 9
2	South Thána	1,202 9 10
3	East Khándesh ...	973 0 6
4	West Khándesh ...	1,557 7 7
5	Násik	1,736 0 6
6	Ahmednagar	2,463 2 9
7	Poona	1,459 7 9
8	Sátára	305 7 1
9	Sholápur	1,054 5 10
10	Surat	71 0 0
11	Panch Maháls ...	97 2 4
	Total ...	11,271 14 11

98. The number of cases compounded during the year has increased in almost all divisions. The scarcity of fodder for cattle which was felt during the year in some of the Deccan districts induced much trespassing of famishing cattle into plantations and closed forests.

99. The number of cattle of different kinds impounded during the year under Section 69 of the Indian Forest Act for trespassing in plantations or in closed portions of forest reservations in the several divisions of the Northern Circle is given in the following statement :—

No.	Division.	Cows and Bullocks.	Buffaloes.	Camels.	Horses.	Asses.	Sheep.	Goats.	Total.
1	North Thána ...	259	36	...	...	...	...	...	295
2	South Thána ...	184	...	...	...	...	...	...	184
3	East Khándesh ...	3,814	3,512	...	10	...	106	2,420	9,862
4	West Khándesh...	9,135	1,072	1	220	4	4,690	5,122	20,244
5	Násik	4,575	425	...	78	28	3,363	4,961	13,430
6	Ahmednagar ...	34,079	4,050	...	654	76	37,039	10,241	86,139
7	Poona	8,857	1,758	...	72	54	10,815	6,629	28,185
8	Sátára	5,513	582	...	62	12	5,612	2,352	14,133
9	Sholápur ...	15,824	3,637	...	193	5	7,186	533	27,378
10	Surat	121	72	...	...	...	...	17	210
11	Panch Mahals ...	83	136	11	1	78	...	246	555
	Total ...	82,444	15,280	12	1,290	257	68,811	32,521	200,615

100. It will be seen that larger numbers were impounded in the Deccan divisions than elsewhere. Owners of sheep and other cattle purposely drive their animals into closed forest to graze at the risk of detection, and impounding once or twice in the course of a year, and they willingly pay the pound fees which are manifestly less than the value of the grazing the animals enjoy, and the fact points to the conclusion that the rates of grazing fees charged by the Forest Department are much lower than might be reasonably demanded, and it is well known they are much less than villagers who possess pasturage lands demand of their neighbours.

3.—CIVIL SUITS.

North Thána Division.

101. A suit was brought by one Balvantrao Hari Gavankar against the Forest Department in the District Court of Thána to recover Rs. 200 which he paid as earnest money to the Divisional Forest Officer, North Thána, at the time of making a tender for the timber in the Karjon compartment of the Bassein Range, which he subsequently repudiated. This suit was not heard up to the close of the year. Government in their Resolution No. 4309, dated 14th June 1889, Revenue Department, have undertaken to defend this suit.

South Thána Division.

102. There were three civil suits brought against the Forest Department in this division in the District Court of Thána during the year :—

First, by Alli valad Mohidin Pátil of Bhiwndi for Rs. 100, claiming Rs. 50 as compensation for losses sustained by breach of contract and the return of Rs. 50 deposited by him. In 1885 certain felled firewood had been sold to this contractor at the rate of Rs. 1-5-3 per cart-load; after removing about 40 cart-loads of the wood in the ordinary cart of the district he introduced carts from Bhiwndi capable of carrying twice the quantity of wood of the local cart, and on being prevented from using these carts he struck work and filed the suit, which Government in their Resolution No. 4777, dated 18th July 1888, Revenue Department, sanctioned to be defended, but it had not been decided up to the close of the year.

Second.—By Vithu Mahad Pátil of Murbe for Rs. 459-5-7. The circumstances of the case are, that of certain timber which had been sold to this man he refused to take delivery of a quantity valued at Rs. 350-5-7 on the plea that it was damaged. This Department then, upon the grounds that the timber had been damaged through Vithu's fault, recovered the above sum from him under the Forest Act, and he then instituted a suit claiming the return of the amount *plus* Rs. 100 for loss of profit and expenses. Under orders contained in Government Resolution No. 5110, dated 30th July 1888, in the Revenue Department, the case was compromised, according to the advice of the Legal Remembrancer by repayment to Vithu Mahad Pátil of the sum of Rs. 350-5-7 *plus* Rs. 59-4-1, on account of expenses.

Third.—By one Parbhudas Govindaji Thaker of Dáhánu for Rs. 823-8-0 for loss alleged to have been sustained by him owing to the issue of passes to cover the removal of bámbus which he had cut in a departmental contract having been refused to him by the Range Forest Officer, who entertained suspicions regarding the material. The defence of this suit was sanctioned in Government Resolution No. 309, dated 16th January 1888, and the District Judge of Thána passed a decree partly in favor of the plaintiff and partly in favor of Government, awarding to the plaintiff Rs. 321 for damages and Rs. 112-4-9 on account of expenses.

Poona Division.

103. It was reported in paragraph 110 of last year's report that the High Court reversed the judgment of the Small Cause Court in the case of Dipchand Balkisan Lodhi *vs.* Mr. Waman Ramchandra Gaúnde, Sub-Assistant Conservator of Forests. The Subordinate Judge in the meanwhile refused to delay the execution of the decree, and the amount of Rs. 435-2-11 was paid by Mr. Gaunde to Dipchand. When the judgment was reversed an unsuccessful endeavour was made to recover this money from Dipchand Lodhi, but no assets belonging to Dipchand could be found. Following the judgment of the High Court, Dipchand instituted a fresh suit in the District Court of Poona, and Government in their Resolution No. 7028 of the 23rd October 1888, sanctioned its defence upon the lines recommended by the Legal Remembrancer, but up to the close of the year the case had not been completed.

4.—FOREST FIRES.

104. Fire conservancy has received very considerable attention during the year under the working of the circular order referred to in paragraph 111 of last year's report, and although the total area traversed by fires is recorded as greater this year than of last year, still the result is not unsatisfactory when all the circumstances are taken into account, for fire conservancy is affected by various conditions, in some years they are favourable and in other years they are inimical. The year of the report was what may be termed "a dry year" in the Deccan and Khándesh, for the monsoon rains were delayed and the fall was abnormally small, and there was an absence of late heavy rains in parts of the country, so that the forests became inflammable earlier in the season than ordinarily, and were more ready to burn later on than happens when the springs and pools do not dry up so quickly, and there is more moisture on all sides. This state of things renders a comparison between the results of the year of this report and of the preceding year no fair test of the exertions of the forest subordinates and of the co-operation of forest villagers in protection against fires. A complete report regarding every fire was drawn up and submitted to the Conservator by the Divisional Forest Officer, and thus the proceedings of all parties, who were responsible for fire conservancy where fires appeared, came under close inquiry.

105. For fire conservancy to be effective all round, a numerically sufficient permanent staff of forest guards is required to be employed. Temporary watchers, who have very little to gain and nothing to lose, are not worth their cost on this side of India where labour is comparatively dear. It is possible, as has been stated, that the forest protective establishment of the Northern Circle is as numerous as anywhere in Europe, but the conditions of Western India and of

Continental Europe are so very widely divergent that no reasonable comparison can be drawn from mere numbers. The indigenous forest guard is not nearly so capable a man as is his confrère in France, or Germany, or elsewhere in Europe, and the local conditions which affect forest conservancy bear no similarity. The State forests of Continental Europe are not open to the world to come and go. The pot-hunting shikári is not permitted to roam over the forests with a rusty matchlock, or an old percussion musket, to go wheresoever he may list, to take axes and cutting implements with him, to carry fire and the means of kindling fire in his pouch, to build ambuscades over water and pathways from which the timid hind and its fawn can be mercilessly slaughtered. The pot-hunting shikári finds the forest undergrowth against him, for it affords cover to deer and other animals, and it prevents him seeing the animals as they approach his place of ambush, so he strikes a light, sets fire to the grass, &c., and strolls away in another direction until fire has effected the clearance desirable to his murderous game, and he is a long way from the spot by the time the forest guards and forest villagers attracted by the rising smoke have come to extinguish the fire and discover its cause. If seen by them there is no direct evidence to convict the man, who has the privilege to come and go, with the fire; he has a story cut and dried to account for his presence, and he probably joins the band who are zealously attacking the fire, and is commended, and may be rewarded, for the assistance he has given. The dead-wood privilege is a fruitful source of fires, for when the natural supply fails the axe and fire readily manufacture the article, which may be taken for domestic use and for barter and for sale. Where such conditions adverse to fire conservancy prevail, especially strong establishments to guard and to patrol are necessary, and the strongest staff cannot always secure the salvation of a forest against fire.

106. It is very satisfactory to note that forest villagers do take an interest in fire protection, inasmuch as they turn out readily to help in putting out fires which have occurred; but it must at the same time be recorded against them that they do not give any information regarding the cause of a fire, and their assistance in detecting the shikári, or the privilege-holder, or the negligent ráb-burner, or the careless way farer, who may have set the forest on fire, cannot be counted upon, for such proceeding may lead to reprisals, as the man who is the informant one day may be the offender the next.

107. In the North and South Thána Divisions decided improvement can be recorded, the total area burnt being 15,049 against 19,848 in the preceding year in the former, and 13,914 against 17,121 acres in the latter division. The usual precautions of burning fire traces along spurs and ridges and the most frequented foot-paths and cart-tracks to prevent fires invading and spreading, were adopted. Warnings were also issued to forest villagers in the sense of Government Resolutions Nos. 4120, 1942 and 1751, dated 21st May 1885, 24th March 1888 and 4th March 1889, that privileges upon the forests might be suspended if fires should prevail; but the condition directed in Government Resolution No. 1942, dated 24th March 1888, that one-third of the forest area must have been burned before the exercise of privileges can be stopped, deprives the ordinance of its utility, as very seldom, if ever, do the forest guards and villagers display such dilatoriness, or negligence, as to permit one-third of the forest area of a village to be burned by a fire, however deliberately it may have been planned and ignited. Into the forests of the Thána District the native shikáris crowd, for there are licensed and unlicensed guns in almost every village. From the Jowhár State the pot-hunter invades the Thána forests, and these shikáris go about in large bands—a gang of over 100 men were met by the Conservator in the Harischándragad forests. And so long as they are not detected in doing anything that is forbidden they cannot be interfered with in the absence of game laws.

108. In the East Khándesh Division, although the area burned is somewhat less than that of the preceding year, still no appreciable improvement can be looked for so long as the privilege-holder may range the Sántpuda forests from end to end: here the undergrowth is fired out of fear of wild animals, and not for the purpose of manufacturing dead-wood, or to conceal thefts of timber, as is done in the Thána District, where kerosine oil is poured upon the bleeding

stumps of freshly felled trees so that the fire may remove the traces of recent felling.

109. Notwithstanding all the efforts the Forest Department in West Khándesh Division, under Mr. Fagan's energetic direction, have made to prevent and check fires, the portion burnt during the year was much larger than of the past year, being 643,169 acres against 476,454 acres in 1887-88, a dry season having been more conducive to fires. The people have legal access to all and every part of the forests of this division also, and so long as the Forest subordinate staff is not strong enough to watch in every direction, such high results as are obtained in divisions easier to protect cannot be expected. The Bhil is a born shikári, and forests are fired to clear undergrowth which gives cover to game and conceals rat-holes, and they are likewise fired so that a nice thick layer of ashes will facilitate the tracking of animals to their lairs, foot prints in the ashes being as clear and visible as in freshly fallen snow. The collection of mhowra and of honey is also conducive to fires occurring in the Sátpuda forests.

110. In all the Deccan divisions of the Northern Circle, except Násik and Sholápur, the spread of fires during the year was not so great as during the preceding year. More cattle were admitted into the Násik and Sholápur forests to graze, owing to the failure of pasturage elsewhere, and the forests were more inflammable; and thus the causes of fire were more prevalent. In the Surat Division the leased Dángs, which owing to their local circumstances are not subjected to strict forest conservancy, have caused the area burnt to be so very large. Here the Bhils and wild classes can do whatever they like, even to making Dáhli inside the forests, and thus fire conservancy is practically non-existent. The portion of the Dángs forest fired during 1887-88 was not reported correctly in last year's returns.

111. The following is a comparative statement of forest fires :—

No.	Division.	Area burnt, 1887-88.	Area burnt, 1888-89.
		Acres.	Acres.
1	North Thána	19,848	15,049
2	South Thána	17,121	13,914
3	East Khándesh	16,247	15,867
4	West Khándesh	476,454	643,169
5	Násik	2,333	12,074
6	Ahmednagar	2,935	2,555
7	Poona	2,429	1,635
8	Sátára	993	481
9	Sholápur	1,393	1,852
10	Surat	27,029	298,531
11	Panch Maháls	9,494	11,088
	Total ...	606,276	1,016,215

112. It may be that the forest area attempted to be protected against fire is greater than the reserved and protected forests of the Circle put together as appearing in the forest area statements; but this can be explained by the fact that the forest and waste lands which are provisionally notified from time to time, and are not finally settled and constituted reserved forests before the end of the year of the report, do not appear in Form No. 49 and in the total of reserved or protected forests, but every acre of forest land directly it is handed over to the charge of this Department is put into a "beat", and is brought under protection against thieves and fire by the agency of a forest guard; and hence the apparent discrepancy between the figures, which the Government of India have remarked upon in paragraph 11 of their letter No. 816-F, dated 5th August 1889, upon the Forest Administration Reports of the Bombay Presidency for 1887-88.

113. The expenditure upon fire conservancy has amounted to Rs. 1,697-6-0, which may be considered to be a small outlay; it does not include pay of special

watchers, for no such staff is employed in the Northern Circle, but it represents payments made to forest villagers either as wages, or as rewards, for working in the extinguishment of forest fires.

114. Fire statistics, more especially when they enter into minute details, must be regarded with considerable caution, because the portion of a forest which may be burned is never surveyed and measured to ascertain the exact area covered by the fire, and the area that escaped. The figures which appear in the returns are mere estimates, and the tendency on the part of a forest officer, who is directly responsible for fire protection, is to decrease and not to magnify the proportion of failures. Possibly in this Presidency the estimates are as correct as, if not more nearly accurate, than in other parts of India, because the Revenue Survey Department has demarcated and mapped the entire country into survey numbers, the acreage of which has been ascertained by cross staff and theodolite survey measurement, as the case may be, and is recorded, and the boundaries of these survey numbers exist upon the ground, and their presence affords a guide for determining the acreage of a fire. The following statement will give the results of fire-protection during the year :—

No.	Division.	Forest Acreage.	Acreage burned.	Percentage burned.	Total Expenditure incurred.	Remarks.
		Acres.	Acres.		Rs.	
1	North Thána	381,296	15,049	3·9	1,106	
2	South Thána	434,965	13,914	3·1	473	
3	East Khándesh ...	545,921	15,867	2·9	22	
4	West Khándesh ...	917,567	643,169	70·0	45	
5	Násik	817,828	12,074	1·4	36	
6	Ahmednagar	556,885	2,555	4·5	...	
7	Poona	473,748	1,635	0·34	...	
8	Sátára	426,269	481	0·11	15	
9	Sholápur	174,526	1,852	1·0	...	
10	Surat	478,524	298,531	62·3	...	
11	Panch Maháls... ...	206,381	11,088	5·3	...	
	Total ...	5,413,910	1,016,215	18·7	1,697	

5.—GRAZING AND FODDER-GRASS.

115. The revenue from grazing and fodder-grass has increased considerably during the year, being Rs. 78,310 over and above the receipts of the previous year, and the steady expansion of this source of revenue which has been going on during the past ten years, as will be seen from the following figures, has been more than maintained :—

	Rs.
1878-79	... 42,629
1879-80	... 64,613
1880-81	...1,00,443
1881-82	...1,41,765
1882-83	...1,64,444
1883-84	...1,97,963
1884-85	...2,25,853
1885-86	...2,32,650
1886-87	...2,37,126
1887-88	...2,48,855
1888-89	...3,27,165

116. The abnormal increase of the year is probably due chiefly to closed forest areas having been opened to the grazing of cattle at the request of Revenue officers, and with the approval and sanction of Government, on payment of fees in the Deccan districts of the Northern Circle owing to scarcity of fodder, which the delayed monsoon rainfall had caused. On the other hand the gradual improvement in quality and quantity of grass, which is mainly due to forest con-

servancy, has much to do with the expansion of revenue under this head, as the progressive augmentation of prices realized in auction sales of the grass in certain areas, which is sold for cutting and removal, evidences.

117. The following statement exhibits the working plan of the forests of the different divisions in respect of grass and grazing for the year :—

No.	Division.	Valuable Kurans.		Free Grazing.			Auction Grazing.		Free Grazing.			Grass given to Commissariat Department.		Area closed to Grazing.	Miscellaneous Grazing Revenue.	Total Grazing Revenue.
		(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Amount realized.	(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Money value of the privilege or right.	(a) Area.	(b) Amount			
		Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.	Rs.	Rs.
1	North Thána ...	10,612	13,316	...	...	...	...	...	353,014	171,750	42,937	...	...	9,758	...	13,316
2	South Thána ...	4,005	371	416,044	20,117	6,380	...	...	...	178,886	25,000	...	...	15,916	48	7,299
3	East Khándesh ...	31,195	14,541	378,391	199,069	25,318	...	...	...	11,829	1,375	...	...	136,835	6,513	46,372
4	West Khándesh ...	20,653	4,610	831,625	696,577	43,769	177	...	...	81,007	9,049	...	...	65,112	6,961	54,870
5	Násik	36,282	16,608	508,069	247,689	24,916	...	...	180,286	248,382	36,800	...	...	93,191	1,769	43,293
6	Ahmednagar ...	4,601	2,991	361,950	213,175	38,187	8,078	1,734	14,361	56,771	1,704	1,067	4,387	165,341	2,952	40,864
7	Poona	54,449	38,595	118,489	67,000	10,734	84,797	2,098	145,095	...	50,000	11,322	35,000	51,631	928	52,355
8	Sátára	57,682	28,106	83,124	31,929	4,392	91,379	7,968	135,363	...	17,500	...	...	30,792	35	40,500
9	Sholápur	34,643	8,919	42,385	71,469	11,049	20,131	586	12,293	70,742	9,196	...	...	65,074	1,216	21,769
10	Surat	...	...	40,885	5,981	650	3,399	144	381	...	69	...	...	...	...	794
11	Panch Mahás ...	17,572	2,282	19,410	9,718	3,447	...	...	135,000	58,000	15,000	...	...	1,025	4	5,733
	Total ...	271,694	1,30,868	2,800,372	1,562,784	1,63,342	207,961	12,530	975,993	877,367	2,08,630	12,389	39,387	633,175	20,425	327,165

118. Much damage, difficult of detection, is caused to forest growth by herdsmen in charge of cattle, who lop off the branches and the young shoots of trees, so that the cattle may feed on the leaves. This is more especially the case in years like this under report, when the rainfall has been scanty and fodder scarce in consequence. The preservation of grass on hill slopes, which have been denuded of all superior vegetation, is essential to guard against the occurrence of floods. It is not only the replanting of hill sides with trees that serves this purpose, but grass contributes to it in many ways: it absorbs much water itself, and it retards the progress of water down a slope, when the growth is thick and luxuriant, and thus gives the earth time to take in much of the fallen water that would otherwise pass over it, and grass is a potential agent in forming soil, for its roots break up the hard ground and open the pores of the earth. For these and other similar reasons the exclusion of sheep and goats from grazing areas on hill slopes placed under treatment for reboisement is the first step towards improvement, for these animals being close feeders tear up the grass root stocks, and thereby cause not only the utter destruction of the pasturage of cattle, but accentuate denudation also.

6.—FENCING.

119. In the North Thána Division wire fences, 5¼ miles in length, were erected during the year in the Sálsette Range at a cost of Rs. 230-9-10; and wire fences round the Wankas Kamare and Khaire plantations in the Máhim Range were repaired at a total cost of Rs. 48-1-3. The euphorbia fence round the casuarina plantation in the Dáhánu Range was put into order at a cost of Rs. 5-8-0.

120. 78,831 running feet of prickly pear fencing were planted at a cost of Rs. 421-10-9 in the Ahmednagar Division, and 15,457 feet by the forest guards without extra cost.

121. In the Sátára Division 44,407 running feet of aloe hedging were planted at a cost of Rs. 218-2-2, and chilari seed was also sown in furrowed lines round some of the plantations, and the old aloe fences were also repaired.

122. The following statement will show the fencing operations which were carried on in five out of seven ranges of the Sholápur Division during the year, the material used being "sher," *Opuntia tirucalli*, and prickly pear, *Opuntia dillenii* :—

No.	Range.	Running feet.	Amount.
			Rs. a. p.
1	Sholápur	12,135	125 5 0
2	Bársi	2,574	25 4 0
3	Mádha	3,250	35 10 0
4	Karmála	3,640	35 8 0
5	Pandharpur	4,875	20 0 0
	Total ...	26,474	241 11 0

7.—NATURAL REPRODUCTION.

123. Concurrently with the establishment of fire conservancy natural reproduction has made more decided and satisfactory progress. In the two Thána divisions during the rainy season, the germination of self-sown seeds is profuse, and seedlings carpet the ground throughout the forests, teak, ain and khair being especially abundant. In this connection it will not be out of place to give an extract from the North Thána Divisional Forest Officer's diary for the month of December 1888; against the 20th it is recorded:—

"On the way inspected the closed portion of the forests in the village of Rabale and Ilton, neither of these has been enclosed with wire-fencing, &c. In Rabale the portion of the forest selected for closure is very suitable for planting operations, already there is a fairly dense growth of brushwood and along the upper slopes a very large number of self-sown mhowra seedlings are to be seen. The old teak stools too which till a few years back, when a proper system of conservancy was introduced, had been suppressed by fires and the axes and koitas of the neighbouring villagers, are now throwing up vigorous shoots and fast developing into seed-bearing trees and are thus assisting in the work of reboisement. In fact throughout this range of hills the reappearance of teak among other vegetation is most marked. I have inspected these forests regularly now for the last four or five years, and each year I notice an improvement. The closed portion of the Ilton forests through which I also walked is situated on the upper slope of the hills, and contains a very promising growth of teak coppice, which in a few years will be bearing seed and assisting in the work of reboisement. The pátil of the village, an oldish man, who met me on the Rabale boundary, tells me that his grandfather, who died a few years ago, had told him that these forests were at one time very well stocked with teak and other timber, but that owing to reckless cutting for the supply of Bombay market they were quite destroyed and reduced to their present barren condition. The reappearance of the teak, khair and other woods quite bears out the story, and all we now require to re-stock these forests again is good fire protection, plentiful broad-casting of mixed seeds and strict exclusion of cattle from the closed portions."

124. In the Deccan divisions of the Northern Circle, natural reproduction from coppice shoots and seeds was good generally, but the scanty rain-fall was not so favorable to germination and growth as in a year of a "seasonable rainfall." The Divisional Forest Officer, Poona, reports that he has seen many reserves where the natural reproduction was most satisfactory, and he has also seen large areas where reproduction was certainly at a standstill, even if denudation was not going on steadily. This is owing to the free grazing of cattle on fixed areas without any restriction as to season, and without limitation of numbers of cattle according to the grazing capabilities of the different forest areas.

125. The cutting of thorns by villagers on payment of fees not only retards reboisement but also promotes denudation. The practice is an unmitigated evil, and an unnecessary evil. Thorns bind the little soil remaining upon the hillsides, they create new soil, they provide cover and shade, they break the dropping force of rain, they check the surface off flow of water, they absorb a quantity and convey it under ground, and they nurse and protect seedlings. To fence an ordinary sized field with thorns causes the stripping of wide stretches of hill side with the exposure of its surface, while the thorns dry, rot, are blown away or taken for fuel purposes before the crop they were intended to protect has been harvested; cultivators do not fence all their fields, and they certainly could get no thorns from the hill sides when the latter were quite bare of vegetation, so custom cannot be urged as an excuse to continue a practice, which is harmful in the

extreme to reboisement, and indeed to agriculture, for it retards the rehabilitation of the natural reservoirs of the country. The cutting of thorns should be strictly forbidden upon the semi-denuded forest hill sides of the Deccan, and no permission to cut thorns or other vegetation within the reserved forests should be given by any authority save of the responsible Forest officers, for if Forestry is a technical and scientific profession, its principles must be observed, and the removal of vegetation, however inferior it may be considered to be, to the prejudice of forest conservancy, to the sacrifice of reboisement, and to the promotion of denudation, should be avoided. In the Gujarát Forest divisions of Surat and Panch Mahâls, reproduction has been as satisfactory as forest fires and cattle will allow; fire and grazing prevent the results being as apparent as they should be. Seedlings which escape fire and drought during the first few months after the monsoon often survive only to be finally disposed of by half-starved cattle at the commencement of hot weather.

126. In the Eastern Deccan ranges which were the centres of famine during 1877-78, and where the rainfall is generally uncertain and often deficient, the increase of game, deer especially, is safe evidence of the growth of cover, showing that the reboisement of denuded lands, which have been constituted reserved forests since the famine year, is fast becoming an accomplished fact. These reserves are visited constantly by professional poachers with their nets and snares and other devices for trapping and destroying game, otherwise the increase of game would have been much greater. The desirability of a few simple game laws, under which a close season could be enforced at the times when animals and game-birds produce their young, and under which sanctuaries also could be established, where traps and snares would be unknown, and the pot-hunter's presence would not be seen, is great, not only in the interests of the preservation of game, a source of food-supply, and of industries, but in the interests of reboisement also, for the damage that a band of Wâghris with their nets to catch hares do to the young growth in a forest has to be seen before it can be believed.

8.—ARTIFICIAL REPRODUCTION.

127. In the North Thána Division, of 127 khandis 9 maunds 2 sers of mixed seeds of all kinds some were broad-casted, and some were sown in prepared ground, and 30,818 seedlings obtained from neighbouring forests were transplanted over the several compartments, which had been coupes of the past season, and in other blank parts of the forests. Rhizomes of bámbus were brought from distant bámbu forest and planted in forests from whence the bámbu had been exterminated. In the South Thána Division 96 khandis of seeds of different kinds collected by beat-guards were sown broad-cast, over coupes and compartments, and plantations were made in some of the recently occupied lands which had been acquired for forest conservancy upon the catchment of the Tánsa Lake, the seeds being sown in pits prepared for their reception. Germination was successful, but in spite of the precautions taken the whole area was subsequently traversed by fire and the young seedlings were burnt to the ground. The cart road from the Tánsa works to the Átgaon Railway Station forms the boundary of the plantation, and the traffic is heavy and constant, and some cartman or wayfarer threw fire carelessly into the grass, and the whole area was soon in a blaze.

128. In the two Khándesh Divisions the usual systems of plantations, *viz.*, of ploughing, dibbling and broad-casting, were resorted to, but the results were not satisfactory, owing to scanty rainfall. In the Násik Division the plantations in Niphád, Yeola, Málegaon, Dindori, Násik and Igatpuri ranges were thriving notwithstanding the drought. In the Ahmednagar Division 20,903 acres were treated, some of the seeds being deposited in pits and some broad-casted with 152 khandis of mixed seeds. In the Poona Division 182 khandis of different kinds of seeds were sown.

129. In the divisions of Sátára, Sholápur, Surat and Panch Mahâls, although plantation operations were undertaken as usual, still owing to scanty rainfall marked progress under this head cannot be recorded.

130. The following statement gives the details of the works of artificial reproduction undertaken during the year, with total cost incurred thereon, in all the divisions of the Northern Circle :—

No.	Division.	Regular Plantations. Area in Acres.				Cultural operation. Area in Acres.				Total Cost.
		On 1st April 1888.	Added	Excluded.	On 31st March 1889.	On 1st April 1888.	Added.	Excluded.	On 31st March 1889.	Rs. a. p.
1	North Thána ...	2,209	...	...	2,209	430	5,487	...	5,917	1,172 15 3
2	South Thána ...	315	152	...	467	2,553	1,461	...	4,014	679 13 7
3	East Khándesh ...	...	10	...	10	11,695	437	...	12,132	263 14 2
4	West Khándesh ...	...	38	...	38	18,837	623	...	19,460	279 1 1
5	Násik	...	...	...	...	4,060	987	100	4,947	2,740 12 2
6	Ahmednagar ...	142	...	...	142	6,513	911	...	7,424	884 1 1
7	Poona	...	...	...	...	32,681	1,986	...	34,667	1,332 12 2
8	Sátára	1,957	614	...	2,571	65,742	20,009	...	85,751	859 10 11
9	Sholápur	...	...	...	...	11,804	10,641	...	22,445	1,806 1 11
10	Surat	...	...	...	...	2,615 5 miles.	17	1,715 5 miles.	917	11 0 0
11	Panch Maháls ...	...	26	...	26	148	140	...	288	127 2 7
	Total ...	4,623	*840	...	5,463	157,078 5 miles.	42,699	1,815 5 miles.	197,962	10,177 4 11

131. In his excellent review of the Forest Administration Report of the North Circle for 1887-88, the Commissioner, C. D., called attention to the thick luxuriant growth of bábul on the slopes of the embankments of the Southern Marátha Railway, which are entirely unprotected, and compared it with some bare tracts of forest land adjoining, and suggested that plots should be dug up and fenced all over these tracts, and should be sown with bábul seeds. In reference to this recommendation, it must be explained that the embankments are made of earth heaped up, and consequently there is a rich deep soil, comparatively loose, into which the tap and other roots, of the recently germinated bábul seedlings, penetrate deeply at once, and the plants become established, and from their position are removed out of danger of harm or destruction from cattle. The case of the bare forest lands is very widely different; here, there is generally no soil, and where there may be a little, it is of no depth, and the surface is caked by sun and weather to the consistency of rock, for generations of cattle have constantly roamed, but not fattened, over these gáiráns. There is no earth to excavate, for moorum and rock where they do not crop up to the surface, are only an inch or two below, the root stocks of grass have been pulled out by the teeth of sheep and goats. The process of the formation of soil by the disintegration of rock under the action of the sun and rain and the working of the roots of grasses and the humblest vegetation was pointed out to the members of Forest Commission in the Bambhurdhe Reserve. Reboisement is necessarily a slow proceeding in such conditions, but it is sure and goes on steadily when the land is protected against cattle, the axe and fire. Nature is the great agent for the reafforestation of the wide stretching denuded areas in the Deccan, and although she can be assisted by forest subordinates, she cannot be relieved entirely of her work, except at so great an expenditure as to render the usurpation utterly unprofitable, and then only can artificial production of superior vegetation be fitful and extend over very limited areas. The scouring force of the rainfall is very powerful so that if soil is dug up and has no vegetation to protect it, and is not heaped up and consolidated into embankments, the slopes being guarded by a facing of stones, the soil will be washed away. Some idea of the denudation existing and to be overcome and the consequent volume of the surface off-flowing rainfall may be realised by the facts stated by the Divisional Forest Officer, Poona. The water consumption of the city of Poona with the Cantonments of Poona and Kirkee and the demands of the irrigation of the Bhimthadi reduce the depth of the Fife Lake 1 foot in about 10 days, but 55 to 60 hours of rain at the commencement of the rains suffices to replenish the lake filling up the 25 feet expended during year. The Commissioner, Northern Division, in his critical

remarks upon the forest administration of last year observes that too much economy appears to be practised in artificial reproduction. "In Madras, last year, the sum of Rs. 65,000, being 5 per cent. of the total forest revenue, was expended on plantations," and judging from what he had seen, Mr. Sheppard was of opinion that the expenditure is likely to be largely remunerative. Mr. Sheppard had visited the Nilgheri hills and had seen the fine plantations of Australian and other exotic trees which have been so successfully established there. In this Presidency there is nothing of the kind, for the simple reason that situation, climate and soil do not offer. But at the same time it must not be forgotten that the forests of Mahábaleshvar yield a considerable revenue from hirdas, firewood, &c., &c. No doubt expenditure carefully incurred upon plantations in a country devoid of coal deposits and where timber and fuel are scarce, will be profitable, provided always that the climate and other local conditions are favourable. But in the Deccan, the region of a light and capricious rainfall, a great deal of money can easily be expended with very little advantage resulting. It would be a very bad policy to expend 5 per cent. of the forest revenue of the Northern Circle, in sowing seeds and planting out seedlings, which will never grow into trees, and in endeavouring to anticipate Nature. Where money can be wisely spent upon plantations, the Forest officers will ever be ready to urge such expenditure. Much work still remains to be undertaken in providing enclosures round the forest reservations to keep out cattle, and to secure the young trees against destruction, not in growing living hedges which are rarely or ever constant and continuous, for breaks occur where the soil is poor, where there are stretches of rock, where the hedge is damaged wilfully or by accident, and which also at their best take years to become protective, but in erecting wire-fencing, &c., which will give to cultural operations such immediate protection as is necessary to successful reproduction. In the bábul reserves of the champaign country of the Deccan every coupe is at present fenced in, as soon as the timber &c., has been exploited, with the branches and thorns of the felled trees, the soil is dug up and the whole surface is sown profusely with seeds which are then covered over, but it is found that the hedging dries and rots, and is blown away, cattle charge through it and make gaps, and the protection thus afforded is not sufficiently lasting. In the forcing climate of the Konkan and of Gujarát such elaborate measures are not necessary, the roots of the exploited timber in the ground must not be disturbed, for they throw up shoots before the rains commence as soon as the sap begins to ascend, and the seeds naturally shed in past years germinate under the new conditions of light and air; where there may be blank spaces devoid of superior vegetation, the forest guards dibble in seeds, and they broad-cast the coupes to supplement the natural distribution of seeds over the surface. So that every coupe of the season becomes virtually a plantation of the rains.

132. There is another point to be remembered in connection with artificial and natural reproduction upon forest lands in this Circle, *viz.*, that grazing and the grass supply are very important considerations, cattle have of necessity to be admitted into forest areas from which they should, if Forestry alone were to be considered, be rigidly excluded for a long term of years. And therefore reafforestation has considerable disadvantages and obstructions to contend against and to overcome, and its course like the course of "true love" does not always run smoothly.

9.—EARLY THINNINGS, REMOVAL OF INFERIOR SPECIES, CUTTING OF CREEPERS, &c.

133. There is nothing of importance to record under these heads. The eradication of prickly pear from reserved forests was carried on by Forest guards and by hired labour in the Poona, Sátára and Sholápur Forest Divisions, where Rs. 293, 56 and 653 respectively were spent upon the operation. Forest guards were made to cut creepers, and to remove other inferior growth which required to be removed, in the forests of their several beats, and no special expenditure was incurred in such works of improvement.

10.—EXPERIMENTS WITH EXOTIC TREES.

134. The Divisional Forest Officer, Ahmednagar, reports that the exotics planted in nurseries in previous years are doing fairly well, and the Divisional

Forest Officer, Násik, states that the Mahogany plants, reported on last year as being 2½ feet high, are still thriving and have attained a height of about 8 feet.

135. An experimental sowing of seeds of the date-palm was made throughout the Circle in all divisions. Some seeds were kindly supplied by the Director of Agriculture, but larger quantities were purchased in the Bombay bazaar to which Bussorah dates come from the Persian Gulf. The steamers and country craft conveying Arab and Persian horses to the Bombay market invariably have cargoes of dates on board. Dates are used in Persia and in Arabia also to feed horses and dogs; grey-hounds, which both Arabs and Persians delight to keep for coursing, are fed largely upon dates. And purchases of date seeds were also made in local bazaars in the mofussil. Nurseries were established in almost every range in each division, in places where there is command of water, and date seeds were sown in ground prepared according to prescribed directions. But the results have not been favourable generally. Germination is reported to have been poor; this is attributed to many of the seeds not being sound and having lost their vitality. Selected date seeds, which were sown in pots, and which received great attention and care, have done better, and the Divisional Forest Officer, Násik, reports that every seed thus sown in his own garden germinated, and the seedlings at the end of the year were one foot high, and there has not been one casualty among them. The Divisional Forest Officer of Sátára reports that there were 689 young date-trees surviving in the nurseries of his ranges at the close of the year. The Divisional Forest Officer, Panch Mahals, reports that germination was indifferent, that the plants were not strong and healthy, that many succumbed to the hot weather, and that about 24 were living at the end of March, and these were about 4 inches high. It is obviously too soon to look for any great result when the experiment is only six months old, no doubt many of the seeds which have not germinated will do so during the rains of 1889. The Conservator visited several of the nurseries of the date-palm in different ranges of the South and North Thána, the Násik and other divisions during his tour and he found young plants in all of them.

11.—COMMUNICATIONS AND BUILDINGS.

(a)—Roads and Bridges.

136. No new projects for roads were submitted by the Forest Department, and no constructions were undertaken by Forest officers, and no great expenditure was made directly from forest funds during the year, but existing roads and communications, which serve for the transport of timber and other forest produce from the forests to markets, have been improved and extended in all divisions by the Public Works Department, and several new roads have been laid out, and considerable progress made upon them, at the cost of the Provincial Services Budget, towards which the Forest Department contributes a considerable sum annually. In the Thána divisions Rs. 7,718 were expended during the year by the Public Works Department upon the Dáhánu and Jowhár road, which up to date has cost Rs. 1,62,587. This road passes through the centre of a forest country, the southern portion of the Dáhánu Range, to Jowhár, the capital of the Native State of the same name, and it connects several rich and widely stretching forests of the Dáhánu Range to Sawte Bandar, and to the Dáhánu Station on the B. B. and C. I. Railway, thus providing these forests with water and railway carriage. The Shirghát-Paruli road, which was under construction last year in the South Thána Division, has made considerable progress during the year, Rs. 33,175 having been expended upon it, but it is not yet available for timber traffic though a section of it has facilitated the exploitation of timber, &c., from one of the coupes in the Mokháda Range. The road from Bhiwndi to Váda, which is used by timber traffic, has been metalled, and the ford of the Tánsa river has been paved, the expenditure of the year amounting to Rs. 8,931. Of the road from the Chahad Khind to Manor, essentially a timber road, 2 miles were opened to traffic in November 1888, and the earth-work up to Manor has been completed, and 14 drains and culverts constructed at an expenditure of Rs. 9.844 in the year.

137. In the Khándesh Collectorate the following works, which will open out forests and promote the circulation of timber, &c., in trade, occupied attention during the year :—

1. Enquiry was resumed as to improving communication across the Syhádri range with the Dángs so as to connect these valuable forests to the markets of Khándesh above the ghâts.

2. Plans and estimates have been sanctioned for improving the Sakri-Ghorda portion of the Dhulia and Surat road and a survey of the Ghorda-Kondaibari road, the main traffic on which is timber and grass.

3. The Dhulia-Nandurbár road branching from the Bombay-Agra road at Songir, was advanced a stage.

4. The Dhulia-Sháháda road was also advanced a stage. Extension to Taloda and thence through the Raisingpur State to the Ankleshvar station of the B. B. and C. I. Railway has been partly surveyed. This road will serve the rich timber forests of the Taloda plains.

Several other roads, which greatly, if not chiefly, promote forest interests, were repaired, metalled or completed by the Executive Engineer, Khándesh, during the year.

138. Additions for Range Forest Officers' offices, were made to the Mámlatdár's Kacheri at Bhusával, and the Mahálkári's Kacheri at Bhadgaon. The new Kacheries completed or in progress at Sakri, Sháháda, Jámner, Navápur contain accommodation for the Range Forest Offices, and plans and estimates were preparing for providing offices at Taloda, Sindkheda and Shirpur and also in the proposed new Kacheries at Dhulia and Erandol.

139. The projected line of Railway starting from the Manmád junction upon the G. I. P. Railway line and travelling by way of Dhulia and Nandurbár to Surat, which has been reconsidered during the year, will, if constructed, develop the trade in timber and will give additional value to forest reservations in parts of Khándesh, and even in the Dángs, and will no doubt augment the forest revenues.

140. In the Násik Division :—

1. The Násik-Dindori and Kalvan road is now quite passable without hindrance from end to end, Rs. 9,629 having been expended upon it during the year and is used largely by timber carts.

2. A further portion of the Goldari and Ozar road in the Peint Range, which will serve teak and bámbu forests in the Harsul sub-range was undertaken.

3. While in the north of the Peint forest country the construction of the Hasteh and Barhe road was pushed on.

141. In the Ahmednagar Division the building of Forest depôt-houses for storing hirda nuts and accommodating Forest Guards, was commenced at Phopsandi, Ghátghar, Shinganvadi, Pálé, Shirpunje and Koltémbhé.

142. In the Poona Division the construction of a road from Ghodá to Ámbegaon was undertaken by the Public Works Department. This road will connect Ghodá, the chief town in the A'mbegaon Range, with A'mbegaon, 11 miles distant, and will be located in the upper reaches of the valley of the Ghoda river, where the latter flows from the ghâts, and will open out teak and mixed forests in the valley and in the neighbourhood of the source of this river. The importance of this road can scarcely be exaggerated, as this part of the country, which has a large trade in Hirda and forest produce, is almost wholly devoid of communications.

143. In the Panch Maháls Division the Godhrá to Sherá road, which is largely used by the timber trade, was improved; and an office was built for the Range Forest Officer at Dohad. Provision is likewise being made for the accommodation of the Range Forest Office in the Kacheries at Hálol and Kapadvanj now under construction.

144. It will be seen from the above list that the forest interests are benefitting largely from the contribution the forest revenues give to the Provincial Services Budget, and that communications calculated to augment the forest wealth, and at the same time to do good generally to the country at large, are being constantly evolved with great foresight, and are being constructed under skilful professional direction and control.

145. The expenditure incurred from the Forest Budget sanctions during the year under "Roads and Bridges", the works being directed and supervised by Forest officers, amounted to Rs. 739-0-1, and is distributed thus :—

Rs.	a.	p.	
48	9	0	On repairs to the Jawli-Baleshwar road in the Ahmednagar Division.
96	3	6	On repairs to the road from Chachegaon in Karád to Kalgaon in Pátan in the Sátára Division to facilitate the extraction of the teak timber cut in the forests of that neighbourhood.
594	3	7	In the Surat Division on repairs to the road from Bánsda to Dhunda in the Dángs, together with its bridges.
739	0	1	

146. Although the introduction of portable tramways and other agencies, such as artificial water-carriage for the conveyance of timber from forests in rough and inaccessible parts of the country to markets has been under consideration, and although it is possible that a tramway might serve in a high degree the forests of a part of the Dáhánu Range, and of the Talasri Mahál, and it is probable that a tramway might be of great use in the Dangs to bring timber, &c., to the coast markets; and although the improvement of the existing water-carriage, and the excavation of a canal, where the water porterage is now defective, might open out the Syhádri forests to the Southern Marátha Railway, for the supply of fuel, the Conservator apprehends that the time has not yet arrived when expenditure upon tramways and water-carriage can be recommended with the certainty of financial advantage in the immediate future, for the Working Plans Division has not yet made sufficient advance, and forest organization and constitution is still very backward, and the forests are also still young.

(*b*)—Buildings.

147. Buildings to serve as offices for Range Forest Officers have been constructed by the Public Works Department in connection with some Táluka Kacheries in districts, where such accommodation was wanting and no new works of importance except the construction of Forest guards' huts, and repairs to Forest stations and posts were undertaken by Divisional Forest officers at the cost of Forest Budget.

148. The following statement will show the expenditure incurred under his head in the different divisions of the Northern Circle :—

No.	Division.	Amount.
1	North Thána	678 14 0
2	South Thána	411 5 6
3	East Khándesh...	291 11 0
4	West Khándesh	893 4 5
5	Násik	3 0 0
6	Ahmednagar	1 0 0
7	Sátára	95 6 0
8	Surat	440 2 2
9	Panch Maháls	252 1 6
	Total ...	3,066 12 7

CHAPTER IV.

YIELD AND WORKING.

1.—DEPARTMENTAL OPERATIONS.

TIMBER AND FIREWOOD.

149. The results of timber and firewood operations of the North Thána division are given in the following table :—

No.	Range.	Number of Coupes.	Area.	Yield.		Cost.			Receipts.			Remarks.
				Timber.	Firewood.							
			Acres.	Pieces.	Cart-loads.	Rs.	a.	p.	Rs.	a.	p.	
1	Sálsette ...	1	31	1,645	892	642	0	9	1,337	0	0	
2	Bassein ...	5	232	7,941	6,483	2,792	10	9	12,656	1	6	
3	Máhím ...	3	133	8,810	615	955	7	3	3,389	4	0	
4	Umbargaon .	4	183	4,152	1,396	1,086	6	6	5,216	14	0	
	Total ...	13	579	22,548	9,386	5,476	9	3	22,599	3	6	

150. Of the above material 841 cart-loads of firewood were sold on permits to villagers for household consumption, and the following quantities of material were sold by retail auction in small lots to meet the requirements of the local population; but the competition at the sales was very feeble and the demand was so small that all the remaining material had to be sold to dealers for trade purposes :—

No.	Range.	Timber.	Receipts.			Remarks.
		Pieces.	Rs.	a.	p.	
1	Sálsette	1,645	1,337	0	0	
2	Bassein	7,584	5,340	8	0	
3	Máhím	1,074	725	4	0	
4	Umbargaon	2,238	3,324	6	0	
	Total ...	12,541	10,727	2	0	

151. The attendance and demand generally for material at the retail auction sales have greatly fallen off during the year. This is due to the very large increase in the number of contract fellings, *i. e.* sales of standing timber and firewood by compartments, to contractors, to which villagers now prefer to go for their wants in timber and other forest produce. It will thus be seen that private enterprise has established a local timber trade which can satisfy and is satisfying all the requirements of local supply, and that the intervention of the Forest Department in the retail wood trade is as unnecessary as it is contrary to the principles of healthy administration.

152. Under Government Resolution No. 7418, dated 8th November 1888, in the Revenue Department, no special arrangements were made to supply the sugar-boilers with firewood, it being decided that these people should provide themselves with firewood from the contractors, who have vast quantities of firewood in their compartments and are ready to sell to all comers, not only for cash payments, as the Forest Department must necessarily do in their sales, but also on the credit system.

South Thána Division.

153. Departmental fellings were made on a very limited scale. It had been decided that the coupes which remained unsold at the annual auctions should be cut departmentally; but fortunately very few coupes, except in the Bhiwndi range, remained unsold.

154. The following statement gives the result of the year's operations, the number of trees in the coupes being 4,000 :—

No.	Range.	Number of Coupes.	Acreage.	Cost of felling.			Price realised.			Net profits.		
				Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
1	Bhiwndi	5	188	1,949	9	10	5,058	4	0	3,108	10	2
2	Kalyán	1	32	157	8	1	508	0	0	350	7	11
3	Khálápur	1	40	291	6	5	750	0	0	458	9	7
	Total ...	7	260	2,398	8	4	6,316	4	0	3,917	11	8

155. In addition to these coupes 2,000 teak trees were cut departmentally in the Karjat range at a cost of Rs. 365-15-0, and the sale-proceeds amounted to Rs. 3,487-2-0, leaving a net profit of Rs. 3,121-3-0; the loppings of these trees produced 2,640 khandis of firewood.

East Khándesh Division.

156. The following statement shows the quantity of different kinds of material cut departmentally :—

No.	Range.	Bábul Logs.	Rafters.		Fuel, Khandis.		Remarks.
			Anjan.	Teak.	Anjan.	Bábul.	
1	Bhusával	500	...	...	...	2,175	
2	Chálisgaon	...	...	...	*1,550	...	*Mixed fuel.
3	Chopda	...	...	5,000	440	...	
4	Edalabad	...	...	...	...	3,000	
5	Jalgaon	...	...	...	...	115	
6	Jámner	...	...	15,000	...	245	
7	Ráver	...	2,500	...	1,000	...	
8	Sávda	...	...	...	1,000	...	
	Total ...	500	2,500	20,000	3,990	5,535	

And the cost and receipts of these operations are as under :—

No.	Range.	Cost.	Receipts.	Net Revenue.
		Rs.	Rs.	Rs.
1	Bhusával	748	3,044	2,296
2	Chálisgaon	319	1,500	1,181
3	Chopda	313	2,527	2,214
4	Edalabad	938	3,100	2,162
5	Jalgaon	33	205	172
6	Jámner	582	5,394	4,812
7	Ráver	398	1,140	742
8	Sávda	312	900	588
	Total ...	3,643	17,810	14,167

West Khándesh Division.

157. The departmental operations of the year consisted in cutting teak, khair, anjan and bábul trees, which were subsequently converted into timber pieces or fuel according to the quality of the wood. The following statement will give the details of teak fellings :—

No.	Range.	Number of Trees.	Converted into Pieces.	Cost.	Receipts.	Remarks.
			No.	Rs. a. p.	Rs. a. p.	
1	Nandurbár	9,700	13,000	300 0 0	3,377 0 0	
2	Navápur	3,700	20,000	704 9 0	2,425 0 0	6,200 pieces not sold.
3	Pimpalner	1,414	10,002	412 0 0	651 8 0	8,129 do.
4	Shirpur	10,772	17,755	480 0 0	6,147 1 0	
5	Sháháda	4,275	16,520	497 10 0	4,576 0 9	
6	Taloda	6,527	13,586	856 13 0	2,682 8 0	
	Total ...	36,388	90,863	3,251 0 0	19,859 1 9	

153. In addition to the above, 1,062 pieces of teak remaining unsold at the close of last year were sold for Rs. 60; and the realizations on account of timber cleared from forest boundary lines amounted to Rs. *320-6-0*.

159. The fuel operations consisted of khair, anjan and bábul, and the details are as under :—

No.	Range.	Number of Trees.	Cubic feet rough stack.	Cost.	Receipts.	Remarks.
				Rs. a. p.	Rs. a. p.	
1	Dhulia	23,106	294,100	1,473 7 6	1,590 0 0	230,100 cubic feet not sold.
2	Nizámpur	2,590	67,837	255 4 0	989 12 0	
3	Sindkheda	21	425	0 12 0	4 13 0	325 do. do.
	Total ...	25,717	362,362	1,729 7 6	2,584 9 0	

160. The Public Works Department bought 727 teak pieces for Rs. 416-12-0.

Násik Division.

161. The departmental operations in timber and firewood are given in the following table :—

No.	Range.	Teak Logs.	Firewood.			Cost.	Receipts.	Remarks.
			Khandis.	Logs.	Cubic feet.			
						Rs. a. p.	Rs. a. p.	
1	Násik	184	...	...	45,000	348 6 7	604 14 0	
2	Igatpuri	2,000	50	174	27,406	275 0 7	524 7 0	
3	Sinnar	812	20	...	...	203 5 8	295 0 0	
4	Niphád	...	...	..	4,680	52 10 8	156 5 0	
5	Chándvad	1,010	...	...	...	70 2 7	605 15 0	
6	Yeola	...	...	...	...	27 10 8	.....	
7	Nándgaon	...	...	...	54,000	277 10 7	800 8 0	
8	Málegaon	950*	...	...	48,726	248 3 10	908 13 0	*Anjan logs.
9	Kalvan	8,540	50	...	4,860	309 14 10	2,462 0 0	
10	Báglán	2,340	100	...	...	130 2 10	693 5 0	
11	Peint	4,196	...	...	...	391 7 2	17,728 11 0	These amounts include the realizations from timer remaining on hand from last year.
12	Dindori	10,172	592	...	...	398 15 6	5,268 10 11	
	Total ...	30,213	812	174	1,84,672	2,738 11 6	30,048 8 11	

Ahmednagar Division.

162. The following is a statement of felling operations :—

No.	Range.	Number of Trees.	Yield. Timber Rafters.	Yield. Fire-wood.	Cost.	Receipts.	Remarks.
	Teak.			C. ft.	Rs. a. p.	Rs. a. p.	
1	Akola	11,244	30,169	14,698	666 0 0	3,865 2 11	The firewood shown consists of lop-pings, &c., of the trees cut.
2	Sangamner	7,974	20,077	6,301	483 7 6	3,024 8 9	
	Total ..	19,218	50,246	20,999	1,149 7 6	6,889 11 8	
	Jámbul.						
1	Akola	2,571	10,074	7,186	189 13 6	238 10 0	
2	Sangamner	1,064	5,040	5,125	99 9 0	353 3 6	
	Total ...	3,635	15,114	12,311	289 6 6	591 13 6	

In addition to the above, 41,029 cubic feet of firewood were cut at a cost of Rs. 203-10-0 in Shrigonda, Shevgaon, Nevása, Kopargaon and Sangamner ranges, and the sale-proceeds amounted to Rs. 1,123-13-0.

Poona Division.

163. The material worked out departmentally is as under :—

No.	Range.	Number of Teak Trees.	Yield. Pieces.	Yield. Firewood.	Cost.	Receipts.	Remarks.
				C. ft.	Rs.	Rs.	
1	Junnar	5,148	12,376	1,400			
2	Ambegaon	19,000	33,995	13,000			
3	Khed	12,289	48,094	8,000	2,935	27,699	
4	Mával	1,132	1,739	262			
5	Haveli	10,351	20,850	34,500			
6	Purandhar	8,000	19,294	6,300			
	Total ...	46,920	136,348	62,462	2,935	27,699	

164. The following statement will give the details of firewood operations :—

No.	Range.	Number of Trees.	Material. Logs.	Material. Stacks.	Cost.	Receipts.	Remarks.
			Cubic feet.	Cubic feet.	Rs.	Rs.	
1	Junnar	77	1,664	2,964	37	339	
2	Haveli	503	7,085	13,585	288	2,792	
3	Bhimthadi ...	7,964	42,989	85,211	1,106	4,667	
4	Bárámati ...	6,175	1,601	18,813	235	757	
5	Sirúr	8,581	6,607	50,127	764	2,385	
	Total ...	23,300	59,946	170,700	2,430	10,940	

Sátára Division.

165. The following statement exhibits the departmental operations in teak, including teak trees in occupied survey numbers the occupants of which declined to purchase the trees at the valuation rates :—

No.	Range.	Yield in Pieces.	Cost.			Receipts.		
			Rs.	a.	p.	Rs.	a.	p.
1	Jávli	3,062	83	5	0	254	0	0
2	Karád	5,635	190	15	0	2,095	0	0
3	Koregaon	2,783	80	1	0	847	0	0
4	Pátan	18,811	745	2	9	6,793	0	0
5	Sátára	7,431	162	8	0	1,036	0	0
6	Shirála	11,603	291	5	0	3,200	0	0
7	Wái	3,069	89	15	6	1,000	0	0
	Total ...	52,394	1,643	4	3	15,225	0	0

The junglewood pieces cut in addition are as under :—

No.	Range.	Pieces.	Cost.			Receipts.			Remarks.
			Rs.	a.	p.	Rs.	a.	p.	
1	Mahábaleshvar ...	*4,563	149	13	8	358	13	5	*610 pieces remained unsold at the end of the year.
2	Pátan	2,900	154	13	6	438	12	0	
3	Tásgaon	318	89	7	0	423	11	0	
	Total ...	7,781	394	2	2	1,221	4	5	

166. The firewood fellings were as under, including loppings from teak fellings :—

No.	Range.	Cubic feet.	Cost.			Receipts.		
			Rs.	a.	p.	Rs.	a.	p.
1	Koregaon	1,096	.....			31	5	0
2	Karád	13,342	69	15	0	218	9	6
3	Khandála	2,250	20	13	0	59	14	3
4	Mahábaleshvar	74,396	1,209	15	6	1,946	8	0
5	Pátan	33,000	226	10	9	789	7	0
6	Sátára	12,408	125	8	0	257	11	0
7	Shirála	6,188	22	13	0	79	10	0
8	Tásgaon	17,010	.....			184	4	0
9	Wái	14,715	93	1	0	334	8	0
	Total ...	174,405	1,768	12	3	3,901	12	9

436 khandis and 14 maunds remained unsold in the Malcolmpeth Depôt at the close of the year.

167. No charcoal operations were undertaken departmentally, as the results of the previous years were not encouraging.

Sholápur Division.

168. There are no teak fellings in this division, but 1,352 cubic feet of bábul and nimb timber were cut at a cost of Rs. 15 in the Sholápur and Pandharpur ranges and sold for Rs. 173-4-0.

169. Firewood operations were undertaken in the Sholápur, Bársi, Mádha, Karmála and Pandharpur ranges, and 18,172 cubic feet of firewood were cut at a cost of Rs. 144-8-9 and sold for Rs. 1,134-0-6, leaving 1,454 cubic feet unsold on hand at the close of the year.

Surat Division.

170. The departmental fellings in this division are as under :—

No.	Range.	Yield. Rafters.	Kh.	Ft.	In.	P.	Cost. Rs. a. p.	Receipts. Rs. a. p.	Remarks.
1	Dángs... ...	...	2,272	1	1	10	2,840 1 8	22,713 14 11	
			1,174	10	2	7			
2	Mándvi ...	2,976	...	...	...	...	588 8 1	*18,244 12 3	*This amount includes the sale-proceeds of 49,871 rafters from last year.
				Total ...			3,428 9 9	40,958 11 2	

Panch Maháls Division.

171. The following statement gives the details of departmental operations undertaken in this division :—

No.	Range.	Yield. Teak Rafters.	Firewood.	Cost. Rs. a. p.	Receipts. Rs. a. p.	Remarks.
			C. ft.			
1	Godhra	27,839	114,762	578 14 10	704 0 0	
2	Hálol	3,969	...	125 1 1	648 10 0	
3	Kálol	...	71,424	376 0 9	.....	
	Total ...	31,808	186,186	1,080 0 8	1,352 10 0	

172. Of the above material 12,263 rafters of the value of Rs. 724-2-7 were handed over from the Godhra Depôt to the Revenue Department as per Government Resolution No. 3404, dated 28th May 1888, as free grants to the villagers of Kuha in the Daskroi Táluka of the Ahmedabad Collectorate and the remaining material at the Godhra Depôt was supplied to the sufferers by the Godhra fire, as per Government Resolution No. 2952, dated 17th April 1889.

BÁMBUS.

173. In the Sátára Division bámbus were cut departmentally last year; but this year no departmental operations were undertaken anywhere, as the sale results of previous years were not satisfactory; for unless bámbus are disposed of speedily they deteriorate, and it is difficult to find purchasers for them.

OTHER MINOR PRODUCE.

North Thána Division.

174. The special departmental arrangements for cutting and preparing ain bark to meet the requirements of the Koli fishermen have been discontinued, as larger quantities of bark than this Department used to exploit formerly

are now obtainable from the contractors, who purchase timber standing in compartments which contain many ain trees, and who bring the bark to the coast towns and villages for sale.

175. The hirda in the Kewnala forests of the Váda range, which has hitherto been collected with the Mokháda hirda and sold to the credit of the South Thána division accounts, was departmentally collected, sold and its price credited to the North Thána division during the year with the following result:—

Quantity.	Cost.	Receipts.	Net Result.	Rate per Khandi.	Remarks.
Kh. m. s.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
*108 26 13	679 14 10	1,727 6 6	1,047 7 8	16 0 0	*Out of this one khandi hirda was retained for sowing purposes.

South Thána Division.

176. The only departmental operation under this sub-head was the collection of hirda. The fruit is collected in the forests by the Thákurs and other wild tribes and brought to depôts, where it is weighed and paid for by depôt officers appointed for this duty. The hirda crop during the year was exceptionally good; there was an increase of 61 khandis over the quantity of last year. The following statement will give the details of the operation:—

Number.	Range.	Quantity.	Cost.	Receipts.
		Kh. m. s.	Rs. a. p.	Rs. a. p.
1	Mokháda	158 18 2	968 0 0	2,637 8 4
2	Khardi	85 6 12	692 11 8	1,417 3 3
3	Sháhápur	13 0 6	85 8 4	216 6 1
4	Kalyán	5 11 12	33 0 0	90 2 8
5	Karjat	2 21 10	44 0 0	45 11 6
	Total ...	265 3 0	1,823 4 0	4,406 15 10

West Khándesh Division.

177. 58 cart-loads of leaves of the anjan tree, *Hardwickia binata*, collected at the departmental fellings in Dhulia range were sold for Rs. 10, and 31 bundles of teak leaves collected at Pimpalner remained unsold at the close of the year.

Násik Division.

178. No departmental collection of hirda was undertaken in this division, but it was collected under a share system, 51 khandis, 3 maunds and 9 sers were thus received in the Igatpuri and Násik ranges, but it all remained unsold at the close of the year owing to very unsatisfactory offers which had been made for it.

Ahmednagar Division.

179. 340 Bombay khandis, 4 maunds and 12 sers of hirda were departmentally collected and sold at Rs. 27-5-0 per Deshi khandi, giving a total revenue of Rs. 3,743-2-10. The cost of collection amounted to Rs. 2,258-9-3. The increased collection of hirda during the year is due to the unusually slight loss by high winds and rain at the commencement of the season; and it is hoped that the system of roads now in course of construction or proposed, in the Akola ghâts, will in future facilitate the transport of this produce and thus enhance its value.

Poona Division.

180. The hirda revenue owing to increased collections shows a considerable advance over last year. The details of the operation are as under :—

No.	Range.	Quantity collected.	Cost.	Receipts.	Remarks.
		K. m.	Rs. a. p.	Rs. a. p.	
1	Junnar	10 4	.....	151 3 3	
2	Khed	19 5	.....	267 9 4	
3	Ambegaon	22 2	.....	378 13 1	
4	Mával	21 0	.....	226 9 3	
5	Mulshi	198 8	1,348 8 3	2,513 11 11	
	Total ...	271 9	1,348 8 3	3,537 14 10	

181. The share system of hirda collection was extended to Mával range this year, but it was found impossible to extend it to Mulshi. The yield has been unprecedented in Mulshi owing to special exertions on the part of the local forest establishment.

Sátára Division.

182. A departmental collection of hirda was undertaken in four ranges as remunerative prices for the right of collecting could be obtained only in the two ranges of Sátára and Wái. The departmental collections not only exceeded expectations, but the prices realised were also very good. 856 khandis 23 maunds and 10 seers were collected at a cost of Rs. 5,745, and the sale proceeds of 678 khandis out of the quantity amounted to Rs. 13,478.

183. The right of collection of shikakai, the pod of the *Acacia concinna*, was sold for Rs. 766, and the balance on hand from the previous year was also sold for Rs. 1,398-12-9.

Sholápur Division.

184. There were no departmental operations under this head in this division, but 8 khandis and 2 maunds of bábul bark stripped from the trees cut departmentally were sold for Rs. 16-2-6.

185. The following statement will show the results of hirda collection of the year under report and of the preceding year :—

No.	Division.	Yield.		Cost.		Receipts.	
		1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
		K. m. s.	K. m. s.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	North Thána	.....	108 26 13	.....	679 14 10	.....	1,727 6 6
2	South Thána	204 0 12	265 3 0	1,614 15 8	1,823 4 0	2,448 5 9	4,406 15 10
3	Násik	100 21 13	51 3 9	630 10 1	56 5 8	1,061 7 7	.....
4	Ahmednagar	170 3 6	340 4 12	1,144 4 0	2,258 9 3	2,500 12 10	3,743 2 10
5	Poona	142 9 6	271 25 3	556 11 9	1,348 8 3	2,336 14 1	3,537 14 10
6	Sátára	385 15 10	349 17 7	2,699 5 9	5,745 2 9	5,246 2 11	13,477 10 1
	Total ...	1,002 23 5	1,386 25 2	6,645 15 3	11,911 12 9	13,593 11 2	26,893 2 1

2.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS.

TIMBER AND FIREWOOD.

North Thána Division.

186. During the year 109 compartments which had been laid out on the ground by the Divisional Forest Officer Working Plans, and carefully defined by cairns and other boundary marks, and in which a careful selection of standards

and seed bearers for reservation had been made, were offered for sale, but only 86 of these were sold, the remaining 23 being kept back as the offers for them were too low.

187. The results of the sales are as under :—

No.	Range.	Number of Coupes.	Area of Coupes.	Yield.		Receipts.
				Timber.	Firewood.	
			Acres.	Pieces.	Khandis.	Rs.
1	Sálsette	3	71	2,682	558	1,866
2	Bassein	13	627	19,599	15,810	21,446
3	Máhím	30	1,299	66,272	36,996	38,003
4	Váda	8	389	48,628	2,290	18,611
5	Dáhánu	26	1,340	110,449	12,484	57,336
6	Umbargaon	6	244	13,121	7,991	10,334
	Total ...	86	3,970	260,751	76,129	147,596

188. Under the permit system which is still employed as a means of meeting the requirements of the local population, but which, it is hoped, will shortly be abandoned as the people have so many facilities for obtaining timber, firewood and other material from the contractors' fellings, the following sums were realised on account of dead-wood removed from the forests :—

No.	Range.	Head-loads at 9 pies, man 6 pies, woman 3 pies, child.	Large Carts at Re. 1 each.	Small Carts at 8 annas each.	Kowl Khandis at 6 annas each.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Sálsette ...	447 0 0	.....	13 0 0	.....	460 0 0
2	Bassein ...	16 0 0	1,309 0 0	102 0 0	516 0 0	1,943 0 0
3	Máhím ...	.....	.....	1,726 0 0	407 0 0	2,133 0 0
4	Dáhánu ...	.....	.....	1,650 0 0	.....	1,650 0 0
5	Umbargaon ...	.....	.....	172 0 0	.....	172 0 0
6	Váda ...	.....	.....	17 0 0	.....	17 0 0
	Total ...	463 0 0	1,309 0 0	3,680 0 0	923 0 0	6,375 0 0

South Thána Division.

189. The timber removed by purchasers realised on the whole very fair prices, and the sales were all effected early. These sales were of two kinds, one of coupes by area, and the other of teak trees marked for the axe. The following statements exhibit the results of such sales :—

Coupe sales.

No.	Range.	Number of Coupes.	Area.	Receipts.	Remarks.
			Acres.	Rs. a. p.	
1	Bhiwndi	11	497	16,162 0 0	
2	Kalyán	14	551	18,166 8 0	
3	Khálápur	2	104	1,981 0 0	
4	Sháhápur	2	179	3,831 0 0	
	Total ...	29	1,331	40,140 8 0	

Sales of Teak Trees.

No.	Range.	Number of Trees.	Prices realized.			Remarks.
			Rs.	a.	p	
1	Sháhápur	16,000	15,640	0	0	The average price per 100 trees was Rs. 95-8.
2	Khardi	8,000	7,516	0	0	
3	Mokháda	8,000	9,110	0	0	
4	Murbád	12,000	11,310	12	0	
5	Karjat	19,740	16,851	4	0	
6	Khálápur	8,000	8,081	0	0	
	Total ...	71,740	68,509	0	0	

190. The forest growth on the Tansa Lake bed was sold last year to Mr. Bhojabhai Allarakhé for Rs. 1,10,001, to be paid in ten quarterly instalments, and the four of these, amounting to Rs. 44,000, which became due, were punctually paid by him during the year, leaving three instalments still to come in.

191. In connection with the Tánsa Water-works, extensive sales of wood were made to different companies. 12,088 teak and 12,507 other trees were sold to Colonel Beaumont, and Messrs. Walsh, Lovett, Mitchel and Co., at a price of Rs. 11,569-4-0, and 1,959 teak and 5,190 other trees were sold to Messrs. Glover and Co. at a price of Rs. 3,364-8-0. Special coupes were marked, and set out for the contractors to fell and exploit all the unreserved timber from and the operations were conducted by them with care and consideration for the standards. The contractors of the Tánsa Lake and of the duct line have maintained excellent discipline over the thousands of workmen they employ, so that the forest reserves have not suffered at all in the neighbourhood of their works. Timely arrangements have been made to provide all probable requirements of timber and firewood, and cordial relations have been maintained between the contractors and the forest officers, and the officers of the Bombay Municipality, who have heartily co-operated with each other in carrying out a great public work, and at the same time in protecting, as far as possible, the interests of the contractors, of the Municipality, and of the State.

192. The quantity of firewood removed from the forests by consumers in cartloads and head-loads, on permits obtained by payment of fees, amounted to khandis 2,192, which realized Rs. 1,198-6-11.

193. In the two Khándesh divisions timber to the value of Rs. 18,166 and firewood worth Rs. 11,101 were removed by purchasers under the permit system. The following statement will give the realizations from timber and firewood in all the other divisions of the Northern Circle :—

No.	Division.	Realizations.			Remarks.
		Timber.	Firewood.	Total.	
		Rs.	Rs.	Rs.	
1	Násik	8,488	808	9,296	
2	Ahmednagar	204	641	845	
3	Poona	130	1,673	1,803	
4	Sátára	2,805	.....	2,805	
5	Sholápur	290	.....	290	
6	Surat	35,429	2,284	37,713	
7	Panch Mahals ...	33,893	932	34,825	
	Total ...	81,239	6,338	87,577	

BA'MBUS.

194. In the North Thána division bámbus were removed by villagers for agricultural purposes on the permit system, and the following statement shows the details of amounts realized :—

No.	Range.	Padhai Bámbus @ Rs. 5 per 100.	Manvel Bámbus @ Rs. 3 per 100.	Bundhi Bámbus @ 8 annas per cart.	Zitas @ 3 annas per cart.	Karal @ 4 annas per cart.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	Sálsette ...	89	21	...	2	44	156
2	Bassein ...	579	316	643	232	303	2,073
3	Máhím ...	115	428	801	256	63	1,663
4	Dáhánu ...	412	236	416	103	11	1,178
5	Um[illegible]gaon	4	22	79	46	23	174
6	Váda ...	80	28	139	7	...	254
	Total ...	1,279	1,051	2,078	646	444	5,498

In addition to the above, 3,00,000 manvel bámbus were sold, to meet the requirements of trade, for Rs. 6,560.

195. In the South Thána division 150,000 manvel bámbus were sold in the Mokháda range at Rs. 2 per 100, realizing Rs. 3,000, and other petty sales of bámbus to the extent of Rs. 544, make up the total realizations Rs. 3,544 in this division.

196. The following statement exhibits the realizations from bámbus in all the other divisions of the Northern Circle :—

No.	Division.	Bámbus in Numbers.	Amount realized.	Remarks.
			Rs. a. p.	
1	East Khándesh ...	No. 256,800 Head-loads 1,040	3,719 0 0	
2	West Khándesh ...	256,772	2,562 7 4	
3	Násik	No. 178,407 Cart-loads 91 Head-loads 831	3,824 9 9 106 8 0 56 15 0	
4	Ahmednagar ...	33,441	342 5 1	
5	Poona	169,849	1,753 0 0	
6	Sátára	18,357	114 6 0	
7	Surat	627,404	12,237 0 5	
8	Panch Mahals ...	162,123	1,986 0 6	

Other Minor Produce.

197. The following statement will show the realizations from minor produce, such as apta and tembhurni leaves, shembi bark, tarwad, honey, wax, fruits, stones, karvi, &c., removed from the forests by consumers or purchasers in the several divisions of the Northern Circle :—

No.	Division.	Amount.	Rrmarks.
		Rs. a. p.	
1	North Thána	4,101 0 0	
2	South Thána	2,375 0 0	
3	East Khándesh	542 0 0	
4	West Khándesh	*9,300 0 0	* Of this amount Rs. 7,780 are for rosha grass stills.
5	Násik	1,399 0 0	
6	Ahmednagar	1,418 0 0	
7	Poona	2,913 0 0	
8	Sátára	4,044 0 0	
9	Sholápur	530 0 0	
10	Surat	6,357 0 0	
11	Panch Mahals	2,193 0 0	
	Total ...	35,152 0 0	

3.—PRODUCE REMOVED BY RIGHT-HOLDERS.

198. No rights, save of way and water access, have been found to attac to the forests of the Northern Circle by the Forest Settlement Officers, an therefore right-holders have no *locus standi* in the forests.

4.—FREE GRANTS OF TIMBER.

199. A comparative statement of free grants of timber which have been made from forest reservations during the past two years in the several divisions of the Northern Circle is given below :—

No.	Division.	1886-87.	1887-88.	1888-89.
		Rs. a. p.	Rs. a. p.	Rs. a. p.
1	North Thána	50 0 0	43 14 0	340 0 0
2	South Thána	336 5 0	1,464 4 0	1,166 8 0
3	East Khándesh	.....	15 10 0	.....
4	West Khándesh	1,639 4 0	651 3 6	159 4 0
5	Násik	348 10 4	520 10 4	367 9 7
6	Ahmednagar	.....	34 7 8	4 0 0
7	Poona	120 0 0	95 0 0	817 0 0
8	Sátára	52 8 0	190 8 0	85 8 0
9	Sholápur	.....	.....	.....
10	Surat	724 0 0	36 0 0	198 8 0
11	Panch Maháls	973 10 0	998 5 6	807 5 0
	Total ...	4,244 5 4	4,049 15 0	3,440 10 7

Imports and Exports of Forest Produce.

200. The following statement shows the imports and exports in the North Thána division :—

No.	Range.	Imports.		Exports.			Remarks.
		Timber.	Firewood.	Timber.	Firewood.	Manvel Bámbus.	
		Pieces.	Khandis.	Pieces.	Khandis.		
1	Sálsette ...	2,740	2,535	1,037	454	...	
2	Bassein ...	...	...	...	20,318	6,326	
3	Máhím ...	...	...	70,034	34,929	66,777	
4	Dáhánu ...	...	...	110,281	12,461	169,019	
5	Umbargaon .	...	430	11,377	7,611	...	
6	Váda ...	...	...	43,274	1,795	...	
	Total ..	2,740	2,965	236,003	77,568	242,122	

201. There is a very large import trade of teak and other timber, bámbus and firewood in the Khándesh District from the Mewas States, Barwani, Holkar's territory, Gáikwár's State, &c. The import duty on such material amounted to Rs. 31,858 against Rs. 27,313 in the previous year. The following statement shows the importations of timber, firewood, charcoal and bámbus into the West Khándesh division during 1888-89 from the six Mewas States :—

No.	Name of Mewas State.	Cart-loads.	Head-loads.	Donkey-loads.	Total.
1	Singaspur	669	124	.....	793
2	Chikholi	4,324	...	.....	4,324
3	Nawalpur	355	2	.....	357
4	Nala	235	...	.....	235
5	Raisingpur	6,579	294	.....	6,873
6	Kathi	4,119	136	97	4,352
	Total ...	16,281	556	97	16,934

201-A. It has not been found to be possible to reduce to the denomination of cubic feet all the timber and firewood exploited from the forests because in the first place the small timber consisting of rafters, &c., which is by far the larger portion of the timber yield of the forests of the Northern Circle, is not measured, and in the second place no attempt is made or could be made to measure the timber on foot in the coupes which are sold to contractors and purchasers to exploit, for the magnitude and cost of such work prohibit this being done. A very rough estimate of the out-turn in cubic feet could, of course, be drawn up, but it would have no pretence to accuracy and Government have ordered that in official reports hypothetical figures should be avoided. Indeed the advantage of an estimate in cubic feet of the timber &c., that has been exploited from the forests of several divisions of a circle is open to question, for it may mislead instead of instruct. The financial statement of the year conveys information regarding the revenue yield of forests, and these figures which are correct are more useful for comparisons than mere estimates of what has been the yield in timber or fire-wood.

201-B. Timber and other forest produce is exploited from the forests chiefly by means of carts drawn by bullocks, as cart roads traverse the forests in all directions. When the fellings are made upon the sides of hills, of ravines, and in other places inaccessible to carts, the timber is dragged up or down, as the case may be, to the nearest cart track generally by oxen, buffaloes being largely employed; the animals are yoked to the larger end of the log and they drag it along the ground. Manual labour also is largely utilized in conveying rafters and small timber from difficult parts of the forests to roads and temporary depôts &c. Pack-bullocks are likewise used for the carriage of forest produce. The Wanjárás in the Sátpuda forests bring bamboos and small logs of wood to the market towns of the Tápti valley by means of pack animals.

CHAPTER V.

FINANCIAL RESULTS.

202. The forest revenue of the year is the largest on record, as will be seen from the figures given below, dating from 1878-79, the year of the introduction of the Indian Forest Act, whereby forest conservancy became more real and effective than it had been before.

	Rs.
1878-79	... 4,48,850
1879-80	... 6,07,625
1880-81	... 6,12,710
1881-82	... 7,99,498
1882-83	... 9,13,532
1883-84	... 9,58,315
1884-85	... 10,08,725
1885-86	... 10,37,297
1886-87	... 9,13,101
1887-88	... 9,68,625
1888-89	... 11,60,769

203. The following statement conveys a comparison between the revenue and expenditure of the year under report and that of the preceding year :—

Official year.	Receipts.	Expenditure.			Net Revenue.
		A. Conservancy and Works.	B. Establishment.	Total.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1887-88	9,68,625 3 5	2,26,095 14 1	4,97,039 9 9	7,23,135 7 10	2,45,489 11 7
1888-89	11,60,768 8 5	2,41,836 7 4	4,85,575 12 5	7,27,412 3 9	4,33,356 4 8
Increase	1,92,143 5 0	15,740 9 3	.....	4,276 11 11	1,87,866 9 1
Decrease	.....	.....	11,463 13 4	.....	.....

204. The distribution of receipts among the several divisions of the Northern Circle, compared with the collection of the preceding year, is given in the following table :—

No.	Division.	1887-88.	1888-89.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	41 11 8	103 15 11	62 4 3	.....
2	North Thána	2,17,968 8 9	2,25,878 13 9	7,910 5 0	.....
3	South Thána	1,42,588 10 1	2,04,454 15 3	61,866 5 2	.....
4	East Khándesh	75,559 1 0	93,628 12 0	18,069 11 0	.....
5	West Khándesh	1,13,236 2 10	1,28,172 6 7	14,936 3 9	.....
6	Násik	82,051 4 10	93,379 15 2	11,328 10 4	.....
7	Ahmednagar	45,483 14 8	55,145 15 10	9,662 1 2	.....
8	Poona	93,819 8 9	1,01,909 4 2	8,089 11 5	.....
9	Sátára	68,832 5 10	85,356 2 5	16,523 12 7	.....
10	Sholápur	16,444 8 2	24,646 15 2	8,202 7 0	.....
11	Surat	55,485 9 7	99,807 12 3	44,322 2 8	.....
12	Panch Máháls	57,060 10 7	48,283 7 11	.....	8,777 2 8
13	Working Plans	53 2 8	.....	.....	53 2 8
	Total ...	9,68,625 3 5	11,60,768 8 5	2,00,973 10 4	8,830 5 4

205. It will be seen that there is an increase in revenue in all the divisions of the Northern Circle with the exception of the Panch Mahâls, where the sales of standing teak were practically stopped owing to a determined combination on the part of the chief Godhra wood-merchants, with the object of keeping down prices. The amounts bid at the departmental auction-sales were not nearly so satisfactory as had been anticipated and consequently the decline of revenue.

206. In the North Thána Division the increase is due to the ready way in which the coupes of the season were sold and to the good prices obtained for them, to the receipts derived from the sale of firewood which had remained unremoved at the close of last working season in the coupes of last year and had in consequence reverted to Government, and also to improved prices realized at the annual sales of hirda, bámbus and other minor produce. In the South Thána Division the increase is due to the same causes, and in addition thereto to the receipts from the clearance sale of trees upon the catchment area of the Tánsa Lake, which is under construction for the water-supply of the city of Bombay. In the two Khándesh divisions there has been a larger demand for fuel, and better prices have ruled the market owing to new ginning factories and spinning mills having been established in different directions of the district. Grass and grazing have been more largely in demand owing to a scanty rainfall. In the divisions of Násik, Ahmednagar, Poona, Sátára and Sholápur, although there are decreases and increases under certain Budget heads and sub-heads, still the gross revenue of the year is in excess of that of the past year, and this is due to—

(*a*). Better prices at auction sales of grass and to the collection of larger sums in payment of grazing fees, closed forests having been opened to famishing cattle in the Deccan divisions on payment of fees, owing to scarcity of fodder which the delayed monsoon rainfall had caused.

(*b*). Larger collections of hirdas than anticipated and to the better prices which ruled the market.

The Divisional Forest Officer, Surat, reports that the increase in revenue is chiefly due to brisk sales of timber and to the better prices obtained for the material, more people, than usual, having come from the Deccan districts to purchase wood from the upper Dángs.

207. The following table shows the expenditure under "A. Conservancy and Works" distributed among several Forest divisions of the Northern Circle as compared with that of the preceding year :—

No.	Division.	1887-88.	1888-89.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	125 12 0	1,000 8 3	874 12 3	.....
2	North Thána	24,900 0 0	18,839 4 4	.....	6,060 11 8
3	South Thána	30,589 13 11	44,241 4 0	13,651 6 1	.....
4	East Khándesh	9,335 14 6	16,293 0 3	6,957 1 9	.....
5	West Khándesh	16,680 2 7	17,082 5 2	402 2 7	.....
6	Násik...	33,464 9 11	29,529 3 10	.....	3,935 6 1
7	Ahmednagar	14,955 13 5	11,808 1 0	.....	3,147 12 5
8	Poona	16,914 9 11	25,876 12 0	8,962 2 1	.....
9	Sátára	25,722 2 10	28,693 5 4	2,971 2 6	.....
10	Sholápur	3,844 15 2	4,522 1 2	677 2 0	.....
11	Surat...	25,567 7 2	22,074 7 8	.....	3,492 15 6
12	Panch Mahális	4,588 8 4	3,770 8 7	.....	817 15 9
13	Working Plans	19,406 0 4	18,105 9 9	.....	1,300 6 7
	Total ...	2,26,095 14 1	2,41,836 7 4	34,495 13 3	18,755 4 0

208. It appears that the expenditure in some divisions is greater by Rs. 34,495-13-3, while in others, less by Rs. 18,755-4-0 than that of the past year, and that a net increase of Rs. 15,740-9-3 results upon the expenditure of the preceding year, but the actuals are less than the sanctioned Budget Estimate of the year by over Rs. 8,000.

209. The decrease of Rs. 6,060-11-8 in expenditure of the North Thána Division, as compared with that of the preceding year, is due to less expenditure having been incurred under Roads, Buildings, Compensation for lands, Surveys, Plantations and other works. On the other hand in the South Thána Division the increase was caused by very considerable expenditure incurred by the Special Officer, Thánsa Water Works, in purchasing occupied lands for forest protection upon the Thánsa Lake catchment. The disbursement of Rs. 5,999-8-0 made for acquiring occupied lands included within the forest conservancy scheme of the Bhusával Táluka, has increased the expenditure in the East Khándesh Division beyond the figure of 1887-88; while the decrease in the Násik Division is accounted for by smaller expenditure on hirda collections and on fellings of timber and firewood, especially in Peint, Dindori and Kalvan ranges. In Ahmednagar the reduction in cost of Forest Settlement Office Establishment, and smaller expenditure in purchasing lands for forests explain the decrease. Rs. 8,739 have been debited under *A. VIII. c.* in the Poona Division on account of the cost of the Forest surveys in the Mával Range, and this debit has raised the total expenditure beyond that of the year before. Larger collections of hirdas were made owing to a more abundant seeding in the Sátára Division, and a larger quantity of firewood was cut to meet an increased demand for the article: owing to the difficulty in obtaining labour the rates of wages had to be raised, which has been one of the reasons for the increase in expenditure in this division. There is a small increase in the Sholápur Division and is chiefly due to greater expenditure upon constructing boundary-marks, for defining forest limits as the work has been carried out more vigorously; there has likewise been increased expenditure upon plantation works and eradication of prickly pear.

210. In the two Gujarát divisions of Surat and Panch Mahális and in the Working Plans Division a decrease in expenditure is to be seen, which is due in the Surat Division to the temporary establishment not having been entertained at its full sanctioned strength and to less expenditure being incurred under Plantations, &c., and in the Panch Mahális and Working Plans Division to less expenditure in the entertainment of temporary establishments.

211. There is a decrease of Rs. 11,463-13-4 under B Establishments owing to savings in the cost of sanctioned establishments, both superior and subordinate. A charge of Rs. 2,262-14-6 has been debited to the Northern Circle on account of payments made in Bombay to officers of other provinces. This charge has no connection whatever with the forests of the Northern Circle and if the amount were transferred to the debits of the Forest Circles to which the officers belong, then the net revenue of the Northern Circle would be increased by Rs. 2,263.

If credit were to be received in the forest accounts for the grass from reserved forests in the Poona Division, which is supplied to the Commissariat Department for the use of battery and cavalry horses, Transport animals and other Government cattle belonging to the Military Department, the surplus revenue of the Northern Circle would benefit by an additional sum of at least Rs. 25,000, for some of the best grass-producing reserved forests in the neighbourhood of Poona are assigned to the Commissariat Department for the supply of grass. A Pársi firm of contractors cuts the grass, transports it and delivers it at the several stables and yards in Poona and Kirkee. The contractor is required to deliver a stated weight of grass from all the reserved forests, and any grass that may be outturned over and above the contract quantity becomes the property of the contractor. It is possible that under such arrangement the Commissariat Department may obtain grass at a comparatively low rate, and that the Commissariat Contractor's profits may be very considerable; and at the same time it is not improbable that the grass revenue sacrificed by Government in the Forest Department may exceed the value of the gain in the Military Department over what would be the cost of an equal quantity of grass obtained in the open market. Villagers are complaining of the closure of sources of fodder grass supply by the grass alienation to the Commissariat Department against their agricultural cattle. Departmental cutting, transport and delivery of the grass, whether undertaken by the Forest or the Commissariat Department, would not, it may be assumed, prove satisfactory. But there seems no good reason why the Commissariat should not purchase in the open market, by inviting tenders for the supply, grass in the same way as they purchase firewood and other stores. And the Conservator ventures to believe that recourse to public competition without requiring certain reserved forests to be specially assigned for Military grass supply would be productive of considerable financial advantage.

CHAPTER VI.

GENERAL REMARKS.

212. At the commencement of the year the Conservator's camp was at Pálghar in the Máhím range of the North Thána division. Mr. Wilkins, the Divisional Forest Officer, and Mr. Fry, the Divisional Forest Officer, Working Plans, were with him. The Collector of the District was met in camp at Máhím when forest matters were discussed. From Pálghar the Conservator marched with these two officers through the Máhím and Bassein ranges, and on the way many compartments were visited, and the operations of the contractors in exploiting timber out of the coupes were inspected. The contractors complained of the difficulty experienced by them in obtaining labour and carriage for the felling of trees and the removal of wood, and of the small local demand; they attributed much of this to the departmental competition in local supply, whereby coast villagers, instead of going to the coupes for their requirements in forest produce, obtained permits from the Forest Department, mostly upon specially favoured rates, and drew their supplies direct from the forests, employing local labour and carriage for the extraction and transport of the material.

213. After leaving the North Thána division the Conservator proceeded into the Karjat range of South Thána, and the Divisional Forest Officer, Mr. Millett, encamped with him at Dhamot near Neral, where they were joined by the Divisional Forest Officer, Working Plans, and were employed up to the middle of May in inspecting the forests upon the northern slopes of the Mátherán range, and the allotments which had been made to the Thákurs for "rán cultivation" upon the terraces. It was found that these men, although they had been employed on wages in constructing special forest boundary-marks to demarcate in a clear unmistakeable and detailed manner, the boundaries of their allotments, and of the reserved forests, which were conterminous, and could have no misunderstanding regarding the boundaries, had encroached with their "shifting cultivation" upon the reserved forests, and had made clearings by the axe and fire. The Conservator with the Divisional Forest Officers visited the Col-

lector of Thána on Mátherán to represent the proceedings of the Thákurs, and to discuss forest matters generally. It was finally decided that heavy assessment should be taken from the Thákurs for the plots they had cleared in the forests, and that they should be warned against a repetition of the offence.

214. Leaving the Thána District, the Conservator proceeded to Khandála in the Poona Collectorate, when Mr. Wroughton, the Divisional Forest Officer, Poona, joined his camp, and up to the end of the month the surrounding forests were inspected daily; the work of building special forest boundary-marks for the demarcation of their boundaries was in progress. Finally when thunderstorms heralding the coming monsoon commenced upon the Western Ghâts, the Conservator moved his camp to the head-quarters station, Poona, for the rainy season.

215. In the month of November, the Conservator was out in camp in the Bhimthadi Táluka of the Poona division at Rájegaon, a village on the banks of the Bhima river: there had been a deficient and unseasonable rainfall in the Deccan, and closed forests not including plantations had been thrown open to cattle, and it was desirable that the effects should be observed. The Divisional Forest Officer, Ahmednagar, Mr. Mainwaring, joined the Conservator's camp, Rájegaon, being on the borders of the Poona and Ahmednagar Collectorates. Some reserves in the Karjat range were visited and the Divisional Office and records were examined. In the villages of Rájegaon and Náigaon there are large areas of waste lands, some of which adjoin existing forest reserves, covered with an advanced and valuable growth of bábul trees, and it is very desirable that the present tree-growth should be preserved in this arid part of the country, which probably is visited by less rain than any other portion of the Eastern Deccan. Leaving Bhimthadi Táluka and inspecting on his way the forests in the Indápur and Málsiras range, and of Piliw in the Akalkot State, the Conservator proceeded into the Sángola range of the Sholápur division, where he was met by Mr. Hornidge, the Divisional Forest Officer, Sholápur, and forest reserves were inspected in the Sángola, Pandharpur and Mádha ranges, Mr. Hornidge being in company. The Conservator returned to Poona for the Christmas vacation, during which time the camp was moved, and in January the Conservator proceeded into the Bhiwndi Táluka of the South Thána division, where he was joined by Mr. Millett, the Divisional Forest Officer, and the several coupes in the range which were being worked by contractors and purchasers were visited. Mr. T. B. Fry, Divisional Forest Officer, Working Plans, who was engaged in completing the differentiation of the forests of the Bhiwndi range into blocks and compartments, also met the Conservator and blocks and compartments were visited daily, and the operations of the surveyors were examined. Mr. Wilkins, the Divisional Forest Officer, North Thána, joined the camp in the Bassein range, and accompanied the Conservator in inspections of forests and coupes in this and in the Váda ranges of North Thána. During the month of February the forests of, and the compartments under the axe, in the Váda, Sháhápur and Khardi ranges were inspected; the Tánsa Lake under construction and portion of the duct line from Tánsa Lake to Bombay was visited, and the contractors were interviewed regarding the supplies of timber and firewood they are drawing from the Government forests. Some of the coupes which have been specially marked out for them were examined and then parting from his office near Kására the Conservator marched into the Mokháda range to Suryamal, and was rejoined by his office at Mokháda; and after inspecting the forests and works in this mountainous range, and the new road-making from Váda up the Shirghát to the Deccan, the Conservator marched into the Násik division by way of the A'mboli Ghát, and encamped at Trimbak, when the forests at the head waters of the Godávari river were examined. Bamboos are growing freely and well in these forests. Mr. Betham, the Divisional Forest Officer, Násik, joined the Conservator at Mahiráwni, and travelled with him through forests in the Igatpuri range, visiting plantations, &c. And once more parting from his office at Bhawli, as there was no cart road through the Ghát country, the Conservator walked through the forests of the Akola range of the Ahmednagar division on the eastern slopes of the Western Ghâts, and on the 31st of March his camp was pitched at Ambit in the Akola Dángs.

216. During his tour the Conservator examined the Divisional Forest Offices of North and South Thána, Working Plans, Poona, Ahmednagar, Sholápur and Násik, and he was satisfied with the state and condition in which he found them. The Conservator can safely say that a great development is taking place in the forests of the Northern Circle, and their value is augmenting rapidly and steadily despite the exercise of privileges which are very destructive in certain portions which are more accessible to markets, bandars and railway stations of export, and to large towns. Protection against illicit fellings is very good indeed, and against fire, in the face of the many difficulties to be contended against, is on the whole highly satisfactory in the more civilized districts. The plan of throwing open to cattle closed forests whenever the monsoon rains may be delayed in their arrival, or grass outside of forest areas may be scarce is fatal to reboisement. There is very little grass at such times in the closed forests and the advantages that cattle receive by their admission into these closed tracts are more imaginary than real, except in so far that crops of ligneous seedlings are browsed down and afford a mouthful here and there. In at least one year out of three is the request made to open closed forests to cattle, and if the reboisement of the denuded hill lands of the Deccan is not so rapid or satisfactory as desired, the reason is the irregular way in which cattle are let into forest areas under treatment for reboisement from which they ought to be excluded rigidly and constantly for a term of years.

217. The Working Plan arrangements in the Thána Collectorate have been productive of much good; they have resulted in, amongst other advantages, establishing a local trade all over the district. The Collector, Mr. Vidal, who was President of the late Forest Commission, has recorded in the Thána Collector's No. 2524 of the 11th April 1889 :—

"The undersigned has received no complaints of any kind during his tour in the coast villages of Bassein, Máhím and Dáhánu, either of insufficiency of local supplies of timber and firewood or of too high prices being demanded by contractors. The local trade, which is now fast establishing itself, will certainly render departmental distribution unnecessary in future years. The progress thus made appears to have been very rapid and could not have been predicted with any certainty three or four years ago. It is none the less satisfactory."

And the Divisional Forest Officer, Mr. Wilkins, in his diary for the 19th March, has noted :—

"It is pleasing to see how kindly the villagers on the coast and elsewhere are taking to getting their timber and firewood from the contractors in preference to depending on the old custom of looking to the Sirkár to supply their wants departmentally."

218. The two Divisional Forest Officers of the Thána Collectorate, Messrs. Wilkins and Millett, and Mr. T. B. Fry, the Divisional Forest Officer, Working Plans, deserve much praise for the excellent work they have performed in this district, for their constant devotion to duty and their untiring industry.

219. The Conservator has much pleasure in testifying to the good work done by all the superior Forest Officers in his Circle, who deserve much credit for the intelligence, energy, zeal and activity with which they have administered their respective charges.

220. The two Khándesh Divisional Officers, Messrs. Desái and Fagan, have earned the praise of the Collector, Mr. Loch, C.S., who remarks in forwarding the report of Mr. Desái that :—

"Mr. Desái has moved actively about his charge and has done his best to make himself acquainted with a district very unlike to the one in which he had served for many years. His report shows that he has administered his division successfully, and there is no reason to doubt that if he remains in charge both the revenue and the work of the subordinates will improve."

And in forwarding Mr. Fagan's report he states :—

"Mr. Fagan's administration report is the record of a year's honest and successful work, successful mainly through the devotion which Mr. Fagan has displayed to his duty and to the energetic way in which he has made himself acquainted with his large charge and supervised the work of his subordinates. This he has done at the cost of a good deal of illness and discomfort to himself. The undersigned feels certain that he need say no more on this point, as he knows that Mr. Shuttleworth appreciates Mr. Fagan's value as a Divisional Forest Officer."

221. In addition to the abovementioned officers, Mr. Wroughton in Poona, Mr. Mainwaring in Ahmednagar, Mr. W. G. Betham in Násik, Mr. Hexton in Surat, Mr. Keys in the Panch Mahál, Mr. Greatheed in Sátára, and Mr. Hornidge in the Sholápur division have, one and all, co-operated heartily with the Conservator, and have earned his warmest acknowledgments, and it is only fitting that he should record the fact in this administration report.

222. The Commissioner of the Central Division, Mr. Moore, takes the greatest interest in forest matters, and is a warm supporter of forest conservancy; and it has given the Conservator much gratification to hear from Mr. Moore that he has observed great improvement in the vegetation covering the hills in parts of the Deccan since his last visit to these places some years ago.

223. The Conservator must also record his obligation to the Collectors generally in the Northern Circle, who are ever ready to consider his representations, and to give all assistance in their power to the department. Mr. Loch is a tower of strength to the forest administration in Khándesh, and Messrs. Waddington, East, Keyser, and Campbell have done very much for forest conservancy in the Ahmednagar, Poona, Sátára and Panch Mahál districts: without the cordial assistance of the Collectors and of their Assistants, successful management of the forests would be a matter of great difficulty.

224. Colonel Pullan, the Superintendent of forest surveys, has been very obliging, and both he and his subordinates have performed good serviceable work for this department, at the expense of much physical labour and discomfort, for the forest country which they are required to survey is rugged and mountainous; and they deserve high commendation for their industry. The forest maps which they have produced furnish evidence of the highest skill, care and precision; and these maps are valuable, not only for forest, but for purposes of the general administration.

225. Of Sub-Assistant Conservators, the following officers have been specially mentioned by the Divisional Forest Officers under whom they have served for the conscientious and enrgetic manner in which they have performed their duties:—

Messrs. A. R. Maidment and J. H. Clabby in North Thána division.

Mr. R. H. Madan, Acting Assistant Conservator in South Thána.

Mr. G. S. Hinge in West Khándesh.

Mr. W. A. Wallinger in Násik.

Mr. W. R. Gaunde in Poona.

226. Of the Range Forest Officers upon whom devolves the greatest responsibility, and the brunt of the executive work, the following have distinguished themselves:—

Shekh Abbas Shekh Ali.

Hasanali Mahomedali.

Joseph Baptista, L.C.E.

Govind Ramchandra Takle, who has administered a very difficult range with great credit to himself and satisfaction to his superiors.

Abdul Rasul Khajbaksh.

Ramchandra Raoji Bodwadkar.

Vishnu Mahadew Tilak.

Balaji Dhondadeo Dhekne.

Walabhram Mulji Bhat.

227. The office establishment of the Conservator, as well as of Divisional Forest Officers, have performed their duties in a highly satisfactory manner; and the thanks of the Conservator are due to Messrs. Krishnaji Babaji Phadke, Keshav Ganesh Vaidya, Krishnaji Vyankatesh Lohokare, Madharao Narayan Gokhale, as well as to all other clerks in his office, and to Messrs.

Shivram Bhikaji Rangnekar, Trimbak Bhikaji Lawhate, Damodar Tukaram, Nimbraj Keshao Chandekar, and Taimbak Govind Mahajan in the divisional offices.

228. During the year under report eight students joined the Forest Class attached to the College of Science, Poona, and one passed the final examination in September 1888. Mr. T. B. Fry, Divisional Forest Officer, Working Plans, gave, as has already been stated, a series of lectures in Forestry to the Forest Class in the College of Science during the rains; and it is much to be regretted that the Forestry lectures cannot be continuous throughout the several terms of the year, and the Conservator would submit that the time has arrived for special arrangement to be made whereby this advantage will be secured, for the proprietors of estates, Inámdárs as well as Native Chiefs, are awakening to an appreciation of the value of forest conservancy and to the desirability of bringing their forest properties under scientific management, and it is becoming apparent more and more every day that the maintenance and augmentation of the general prosperity of this country is dependent in a very great measure upon a widespreading system of approved forest conservancy.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 31st October 1889.

FORM No. 49.

Forest Department, Bombay, Northern Circle.

Area of Reserved Forests, 1888-89.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1888.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1889.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
				Sq.m. a.				Sq.m. a.		
North Thána ...	Thána		182,296	284 536	*a* 9,722	*b* 2	192,016	300 16	*a* No. 5177B / 1-8-88.	
South Thána ...			208,395	325 395	*c* 907	*d* 1	209,301	327 21	*b* No. 5914 / 3-9-88.	
East Khándesh ...	Khándesh ...		463,832	724 472	*e* 48,108	*f* 100	511,840	799 480	*c* Nos. 6457A / 25-9-88, 7732A / 19-11-88, 5915 / 3-9-88.	
West Khándesh ...			792,314	1,237 634	*g* 302	...	792,616	1,238 296	*d* Nos. 5823 / 29-8-8.	
Násik	Násik		708,795	1,107 315	**h* 109,280	*i* 247	817,828	1,277 548	*e* Nos. 7352 / 5-11-88, 7352B / 30-1-89, 1112 / 11-2-89, 764 / 30-1-89.	
Ahmednagar ...	Ahmednagar ...		526,620	822 540	*j* 23,397	*k* 286	549,731	858 611	*f* No. 710 / 28-1-89.	
Poona	Poona		465,783	727 503	*l* 8,505	*m* 540	473,748	740 148	*g* Nos. 3991 / 19-6-89, 2485 / 24-4-88.	
Sátára	Sátára		425,326	664 366	*n* 3,656	*o* 2,741	426,241	666 1	*h* Nos. 3770 / 11-6-88, 3988 / 19-6-88. 965 / 14-2-89, 8247 / 10-12-98, 2701A / 1-5-88.	
Sholápur	Sholápur ...		173,347	270 547	1,197	18	174,526	272 446	*i* Nos. 4720 / 16-7-88, 5859 / 31-8-89, 8276 / 11-12-88, 8541 / 21-12-88.	
Surat	Surat		44,284	69 124	...	...	44,284	69 124	*j* Nos. 4255 / 26-6-88, 3795 / 11-6-88, 4169 / 26-6-88, 7271 / 31-10-88.	
Dángs			434,240	678 320	...	...	434,240	678 320	*k* Nos. 8541 / 21-12-88, 5559 / 6-8-88.	
Kaira	Kaira		39	0 39	...	...	39	0 39	*l* Nos. 4826A / 20-7-88, 5471 / 13-8-88.	
Panch Maháls ...	Panch Maháls ...		114,937	179 377	*p* 4,753	*q* 2,393	117,297	183 177	*m* Nos. 5557 / 16-8-88, 4609 / 11-7-88, 753 / 29-1-89, 5312 / 7-8-88.	
Ahmedabad ...	Ahmedabad ...		21,878	34 118	...	...	21,878	34 118	*n* Nos. 7119 / 20-10-88, 7348 / 5-11-88.	
		Total ...	4,562,086	7,128 166	209,827	6,328	4,765,585	7,446 145	*o* No. 8423 / 17-12-88.	
									p No. 3280 / 22-5-88.	
									q Nos. 1546 / 5-2-89, 6699 / 8-10-89.	

* Out of this 53,016 acres represent rectification of area.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Protected Forests, 1888-89.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1888.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1889.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
				Sq.m. a.				Sq.m. a.		
North Thána ...	Thána		191,089	298 369	...	*a* 1,809	189,280	295 480	*a* No. 5177B / 1-8-88.	
South Thána ...			225,668	352 388	...	*b* 4	225,664	352 384	*b* No. 4991 / 26-7-88.	
East Khándesh ...	Khándesh ...		43,681	68 161	...	*c* 9,600	34,081	53 161	*c* No. 2478 / 24-4-88,	
West Khándesh...			124,951	195 151	...	...	124,951	195 151		
Násik	Násik		...	.....	...	...	.....	.....		
Ahmedangar ...	Ahmednagar ...		7,154	11 114	...	...	7,154	11 114		
Poona	Poona		...	.....	...	...	.....	.....		
Sátára	Sátára		17	0 17	*d* 11	...	28	0 28	*d* No. 6899B / 16-10-88.	
Sholápur	Sholápur ...		...	.....	...	...	.....	.....		
Surat	Surat		...	.....	...	...	.....	.....		
Dángs			...	.....	...	...	.....	.....		
Kaira	Kaira		...	.....	...	...	.....	.....		
Panch Mahals ...	Panch Mahals ...		89,853	140 253	*e* 782	*f* 1,590	89,045	139 85	*e* No. 3640 / 4-6-88. *f* Nos. 2625 / 30-4-88, 3463A / 29-5-88, 3595 / 4-6-88, 4253 / 28-6-88.	
		Total ...	682,413	1,066 173	793	13,003	670,203	1,047 123		

A. T. SUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

B 623—15 N C

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Register of breaches of Forest Rules during 1888-89.

Forest Division and Civil District.	Cases pending from 1887-88.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to Forest by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other Offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
North Thána	7	...	57	...	8	65	72	38	73	34	61	72	134	...
South Thána	19	1	173	3	27	204	223	158	287	51	136	209	423	14
East Khándesh	8	...	31	3	8	42	50	33	67	15	23	48	90	2
West Khándesh	39	11	16	2	78	107	146	99	197	27	40	126	237	20
Násik	10	...	35	10	7	52	62	43	68	5	9	48	77	14
Ahmednagar	9	...	12	18	20	50	59	38	86	15	47	53	133	6
Poona	...	...	82	197	33	312	312	232	554	47	139	279	693	33
Sátára	8	2	20	10	5	37	45	27	44	17	40	44	84	1
Sholápur	10	1	5	81	22	109	119	67	138	34	83	101	221	18
Surat	2	...	5	...	2	7	9	9	25	...	1	9	26	...
Panch Mahals	...	...	38	...	4	42	42	32	102	10	34	42	136	...
Total ...	112	15	474	324	214	1,027	1,139	776	1,641	255	613	1,031	2,254	108

Dated Poona, 31st October 1889.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 51.

Forest Department, Bombay, Northern Circle.

Area of Forest Tracts protected from Fire during the Dry Season, 1889, to accompany Report for 1888-89.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1888.	During the Dry Season of 1889.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
North Thána ...	Sálsette	1878-79 ...	17,121	17,243	267	16,976	208	
	Bassein	,, ...	37,800	41,393	717	40,676	96	
	Máhim	,, ...	97,182	101,407	1,912	99,495	399	
	Dáhánu	,, ...	124,738	126,673	4,555	122,118	269	
	Umbergaon	,, ...	37,717	38,717	561	38,156	56	
	Váda	,, ...	39,589	48,560	7,037	41,523	162	
	Total ...		354,145	373,993	15,049	358,944	1,190	
South Thána ...	Bhiwndi	1878-79 ...	42,992	46,308	1,922	44,386	70	
	Sháhápur	,, ...	61,936	69,871	1,755	68,116	122	
	Khardi	,, ...	80,395	80,425	1,113	79,312	51	
	Mokháda	,, ...	58,300	59,685	1,100	58,585	21	
	Kalyán	,, ...	31,509	35,482	6,713	28,769	50	
	Murbád	,, ...	90,143	90,840	685	90,155	61	
	Karjat	,, ...	30,980	35,134	315	34,819	66	
	Khálápur	,, ...	20,987	17,220	311	16,909	32	
	Total ...		417,242	434,965	13,914	421,051	473	
East Khándesh...	Amalner	1878-79 ...	2,046	19,916	175	19,741	...	
	Páchora	,, ...	25,414	22,986	...	22,986	...	
	Bhadgaon							
	Bhusával		62,152	12,389	1,831	10,558	...	
	Edalabad	,, ...						
	Cháliagaon	,, ...	62,375	17,654	230	17,424	...	
	Chopda	,, ...	106,112	134,871	806	134,065	...	
	Erandol	,, ...	12,169	12,169	...	12,169	...	
	Jalgaon	,, ...	20,788	3,132	506	2,626	...	
	Jámner	,, ...	18,705	40,960	2,979	37,981	8	
	Ráver							
	Sávda	,, ...	181,505	43,660	9,340	34,320	14	
	Yával							
	Total ...		491,266	307,737	15,867	291,870	22	
West Khándesh ...	Akráni	1878-79 ...	159,601	166,176	166,176	Nil	9	
	Dhulia	,, ...	112,739	118,153	Nil.	118,153	...	
	Nandurbár	,, ...	32,804	72,009	36,218	35,791	...	
	Nizámpur	,, ...	130,102	151,516	2,125	149,391	3	
	Pimpalner	,, ...	64,873	70,570	21,806	48,764	2	
	Sháháda	,, ...	10,100	85,104	85,104	Nil	...	
	Shirpur	,, ...	149,000	349,144	197,310	151,834	23	
	Sindkheda	,, ...	23,968	24,916	Nil.	24,916	6	
	Navápur	,, ...	Nil.	58,930	58,930	Nil	...	
	Taloda	,, ...	Nil.	75,500	75,500	Nil	2	
	Total ...		683,187	1,172,018	643,169	528,849	45	
Násik	Násik	1878-79 ...	30,989	43,698	643	43,055	...	
	Igatpuri	,, ...	37,118	53,883	62	53,821	...	
	Sinnar	,, ...	39,815	35,371	5	35,366	...	
	Dindori	,, ...	20,084	55,256	297	54,959	...	
	Niphád	,, ...	3,446	3,446	...	3,446	...	
	Chándor	,, ...	24,939	24,948	...	24,948	...	
	Yeola	,, ...	31,332	31,496	4	31,492	...	
	Báglán	,, ...	108,772	124,177	497	123,680	...	
	Kalvan	,, ...	123,758	109,356	9,178	100,178	...	
	Peint	,, ...	57,544	107,217	1,278	105,939	...	
	Málegaon	,, ...	106,757	121,914	110	121,804	...	
	Nándgaon	,, ...	121,908	107,066	...	107,066	...	
	Total ...		706,462	817,828	12,074	805,754	...	

FORM No. 51—*continued.*

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1888.	During the Dry Season of 1888.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.		
Ahmednagar ...	Nagar	1878-79 ...	39,902	41,694	111	41,583	...	
	Párner	,, ...	69,711	68,856	89	68,767	...	
	Shrigónda	,, ...	43,147	44,243	828	43,415	...	
	Karjat	,, ...	49,733	50,313	3	50,310	...	
	Jámkhed	,, ...	38,799	39,784	87	39,697	...	
	Shevgaon	,, ...	27,144	27,603	...	27,603	...	
	Nevása	,, ...	18,425	19,881	...	19,881	...	
	Ráhuri	,, ...	48,633	50,970	...	50,970	...	
	Koregaon	,, ...	3,941	8,889	...	8,889	...	
	Sangamner	,, ...	76,115	86,414	...	86,414	...	
	Akola	,, ...	109,738	111,086	1,437	109,649	...	
	Total ...		525,288	549,733	2,555	547,178	...	
Poona ...	Junnar	1878-79 ...	55,043	55,269	76	55,193	...	
	Indápur...	,, ...	62,531	62,543	51	62,493	...	
	Khed	,, ...	54,178	55,332	404	54,927	...	
	A'mbegaon	,, ...	43,307	43,479	349	43,130	...	
	Sirúr	,, ...	20,273	20,275	40	20,235	...	
	Purandhar	,, ...	25,399	25,423	15	25,408	...	
	Bhimthadi	,, ...	53,802	53,826	...	53,826	...	
	Bárámati	,, ...	19,971	20,031	...	20,031	...	
	Haveli	,, ...	49,723	50,009	281	49,728	...	
	Mulshi	,, ...	25,105	25,277	184	25,093	...	
	Mával	,, ..	54,022	54,319	235	54,084	...	
	Total ...		463,354	465,783	1,635	464,148	...	
Sátára	Mahábaleshvar ...	1878-79 ...	41,388	40,759	243	40,516	15	
	Mán	,, ...	56,155	56,156	...	56,156	...	
	Khatáv	,, ...	16,503	16,503	...	16,503	...	
	Karád	,, ...	35,966	35,986	9	35,977	...	
	Wái	,, ...	24,878	24,892	...	24,892	...	
	Koregaon	,, ...	28,654	28,772	86	28,686	...	
	Sátára	,, ...	22,263	22,263	...	22,263	...	
	Tásgaon...	,, ...	13,573	13,573	...	13,573	...	
	Khandála	,, ...	14,189	14,195	...	14,195	...	
	Jávli	,, ...	50,782	50,802	17	50,785	...	
	Khánápur	,, ...	30,427	30,428	3	30,425	...	
	Válva	,, ...	26,780	25,569	...	25,569	...	
	Pátan	,, ...	62,792	66,369	123	66,246	...	
	Total ...		424,350	426,267	481	425,786	15	
Sholápur.. ...	Sholápur	1878-79 ...	37,261	37,886	581	37,305	...	
	Bársi	,, ...	8,476	8,536	52	8,484	...	
	Mádha	,, ...	30,679	31,383	1,219	30,164	...	
	Karmála	,, ...	50,486	50,479	...	50,479	...	
	Pandharpur	,, ...	5,873	5,873	...	5,873	...	
	Sángola...	,, ...	17,780	17,757	...	17,757	...	
	Málsiras	,, ...	21,431	21,433	...	21,433	...	
	Total ...		171,986	173,347	1,852	171,495	...	
Surat	Mándvi	1878-79 ...	34,386	41,480	9,023	32,457	...	
	Dángs	,, ...	556,800	434,240	289,493	144,747	...	
	Chikhli	,, ...	116	825	...	825	...	
	Balsár and Párdi ...	,, ...	1,504	1,529	15	1,514	...	
	Bárdoli	,, ...	451	450	...	450	...	
	Total ...		593,257	478,524	298,531	179,993	...	
Panch Mahals ...	Godhra	1878-79 ...	54,944	120,801	3,415	117,386	...	
	Kálol	,, ...	13,586	22,318	3,133	19,185	...	
	Hálol	,, ...	23,747	27,613	805	26,808	...	
	Dohad	,, ...	46,217	46,538	230	46,308	...	
	Jhálod	,, ...	26,802	26,872	3,505	23,367	...	
	Total ...		165,296	244,142	11,088	233,054	...	
	Grand Total ...		4995,833	5,444,337	1,016,215	4,428,122	1,745	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 52.

Forest Department, Bombay, Northern Circle.

Area of Plantations, 1888-89.

Division.	Name of Plantation.	Area in Acres.				Receipts.	Charges.	Remarks.
		On 1st April 1888.	Added during the year.	Excluded during the year.	Area on 31st March 1889.	Of the year.		
	Regular Plantations.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
North Thána ...	Sálsette	107	...	...	107	...	33	
	Bassein	1	...	...	1	...	...	
	Mahím	1,880	...	...	1,880	...	127	
	Dáhánu	2	...	...	2	...	6	
	Váda	92	...	...	92	...	20	
	Umbargaon	127	...	...	127	...	...	
	Total ...	2,209	...	...	2,209	...	186	
South Thána ...	Bhiwndi	261	75	...	336	...	...	
	Mokháda	5	7	...	12	...	...	
	Karjat	49	40	...	89	...	110	
	Shábápur	...	30	...	30	...	233	
	Total ...	315	152	...	467	...	343	
East Khándesh	Amalner	...	1	...	1	...	57	
	Bhusával	...						
	Chopda	...	1	...	1	...	33	
	Edalabad	...						
	Erandol	...	1	...	1	...	38	
	Jalgaon	...						
	Jámner	...						
	Páchora	...	1	...	1	...	96	
	Ráver	...						
	Sávda	...	6	...	6	...	60	
	Yával	...						
	Total ...	...	10	...	10	...	284	
West Khándesh	Akráni	...	11	...	11	...	100	
	Dhulia							
	Nizámpur	...	25	...	25	...	67	
	Pimpalner	...	2	...	2	...	63	
	Taloda							
	Total ...	...	38	...	38	...	230	
Násik	.....			Nil.				
Ahmednagar ...	Nagar-Dongargaon... ...	142	...	...	142	...	...	
Poona	.....			Nil.				
Sátára...	Khaṭáv	207	46	...	253	...	176	
	Koregaon	227	11	...	238	...	98	
	Karád	252	18	...	270	...	50	
	Khandála	31	45	...	76	...	65	
	Válva	69	6	...	75	...	22	
	Sátára	28	40	...	68	...	61	
	Wái	205	...	...	205	...	15	
	Mán	48	106	...	154	...	56	
	Jávli	28	13	...	41	...	33	
	Mahábaleshvar	385	250	...	635	...	195	
	Tásgaon	296	...	...	296	...	...	
	Pátan	114	52	...	166	...	36	
	Khánápur	41	27	...	68	...	53	
	Shirála	26	...	...	26	...	...	
	Total ...	1,957	614	...	2,571	...	860	
Sholápur... ...	.....			Nil.				
Surat	.....			Nil.				
Panch Máhals ...	Kálol...	...	26	...	26	...	127	
	Total Regular Plantations...	4,623	840	...	5,463	...	2,030	
	Cultural Operations.							
North Thána...	Sálsette	155	154	...	309	...	197	
	Bassein	33	1,186	...	1,219	...	196	
	Máhim	88	1,456	...	1,544	...	180	
	Dáhánu	55	1,659	...	1,714	...	147	
	Umbargaon	39	320	...	359	...	96	
	Váda	60	712	...	772	...	170	
	Total ...	430	5,487	...	5,917	...	986	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1888.	Added during the year.	Excluded during the year.	Area on 31st March 1889.	Receipts. Of the year.	Charges. Of the year.	Remarks.
	Cultural Operations—contd.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
South Thána ...	Bhiwndi	392	183	...	575	...	6	
	Sháhápur	194	424	...	618	...	30	
	Khardi	119	137	...	256	...	48	
	Mokháda	94	72	...	166	...	19	
	Kalyán	262	573	...	835	...	14	
	Murbád	676	...	...	676	...	5	
	Karjat	185	35	...	220	...	102	
	Khálápur	631	37	...	668	...	113	
	Total ...	2,553	1,461	...	4,014	...	337	
East Khándesh.	Amalner	2,119	7	...	2,126	...	...	
	Bhadgaon	272	...	...	272	...	...	
	Bhusával	1,606	30	...	1,636	...	...	
	Chálisgaon	457	35	...	492	...	...	
	Chopda	415	120	...	535	...	...	
	Edalabad	360	29	...	389	...	...	
	Erandol	4,984	26	...	5,010	...	...	
	Jalgaon	404	53	...	457	...	...	
	Jámner	617	30	...	647	...	...	
	Páchora	30	5	...	35	...	..	
	Ráver	100	42	...	142	...	...	
	Sávda	236	30	...	266	...	...	
	Yával	95	30	...	125	...	...	
	Total ...	11,695	437	...	12,132	...	..	
West Khándesh	Akráni	138	18	...	156	...	...	
	Dhulia	3,128	25	...	3,153	...	...	
	Nandurbár	698	120	...	818	...	...	
	Navápur	1,346	40	...	1,386	...	...	
	Nizámpur	446	65	...	511	...	...	
	Pimpalner	1,384	16	...	1,400	...	...	
	Sháháda	3,357	41	...	3,398	...	...	
	Shirpur	1,695	10	...	1,705	...	...	
	Sindkheda	5,795	167	...	5,962	...	49	
	Taloda	850	121	...	971	...	...	
	Total ...	18,837	623	...	19,460	...	49	
Násik	Násik	61	2	...	63	...	200	
	Igatpuri	85	115	...	200	...	190	
	Chándvad	160	100	...	260	...	57	
	Sinnár	294	...	...	294	...	207	
	Yeola...	1,602	325	...	1,927	...	928	
	Niphád	417	27	...	444	...	265	
	Dindori	119	23	...	142	...	62	
	Málegaon	1,234	324	100	1,458	...	676	
	Nándgaon	23	23	...	46	...	36	
	Báglán	50	30	...	80	...	67	
	Kalvan	15	18	...	33	...	42	
	Peint	...	...	...	...	...	11	
	Total ...	4,060	987	100	4,947	...	2,741	
Ahmednagar ...	Nagar	671	87	...	758	...	250	
	Párner	556	21	...	577	...	55	
	Shrigonda	747	306	...	1,053	...	150	
	Karjat	232	87	...	319	...	39	
	Jámkhed	1,715	106	...	1,821	...	70	
	Shevgaon	444	62	..	506	..	24	
	Nevása	185	5	...	190	...	60	
	Ráhuri	131	87	...	218	...	115	
	Kopargaon	285	91	...	376	...	48	
	Sangamner	1,461	57	...	1,518	...	63	
	Akola	86	2	...	88	...	10	
	Total ...	6,513	911	...	7,424	...	884	
Poona	Junnar	965	...	...	965	...	8	
	Indápur	2,586	229	...	2,815	..	120	
	Khed...	6,188	..	...	6,188	...	17	
	Ambegaon	2,280	19	...	2,299	...	18	
	Sirúr	5,655	96	...	5,751	...	337	
	Purandhar	5,950	...	...	5,950	...	14	
	Bhimthadi	3,531	90	...	3,621	...	408	
	Bárámati	2,002	35	...	2,037	...	142	
	Haveli	1,384	37	...	1,421	...	243	
	Mulshi	849	...	...	849	...	10	
	Mával	1,119	...	...	1,119	...	16	
	Plantation by Forest guards	172	1,480	...	1,652	...	...	
	Total ...	32,681	1,986	...	34,667	...	1,333	

FORM No. 52—*concluded.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1888.	Added during the year.	Excluded during the year.	Area on 31st March 1889.	Receipts Of the year.	Charges Of the year.	Remarks
		Acres.	Acres.	Acres.	Acres.		Rs.	
Sátára ...	Mahábaleshvar	2,035	1,775	...	3,810	...	...	
	Shirála	84	187	...	271	..	...	
	Sátára	977	712	...	1,689	...	...	
	Mán	2,253	3,724	...	5,977	...	...	
	Válva	1,834	681	...	2,515	...	...	
	Khatáv	1,085	68	...	1,153	...	...	
	Karád	13,118	5,263	...	18,381	...	...	
	Tásgaon	1,023	298	...	1,321	...	...	
	Khánápur	2,386	1,144	...	3,530	...	...	
	Khandála	3,738	480	...	4,218	...	...	
	Pátan	3,933	1,502	...	5,435	...	...	
	Jávli	6,231	1,027	...	7,258	...	...	
	Wái	17,734	12	...	17,746	...	...	
	Koregaon	9,311	3,136	...	12,447	...	...	
	Total ...	65,742	20,009	...	85,751	...	...	
Sholápur ...	Sholápur	1,405	1,760	...	3,165	...	447	
	Bársi	322	1,177	...	1,499	...	122	
	Mádha	4,873	1,618	...	6,491	...	269	
	Pandharpur	2,111	588	...	2,699	...	241	
	Karmála	1,728	2,289	...	4,017	...	430	
	Sángola	372	2,679	...	3,051	...	165	
	Málsiras	993	530	...	1,523	...	132	
	Total ...	11,804	10,641	...	22,445	...	1,806	
Surat	Dángs	1,715	...	1,715	....	...	11	
	Chorási	22	...	...	22	...	...	
	Bulsár	143	4	...	147	...	...	
	Párdi	34	6	...	40	...	...	
	Chikhli	133	7	...	140	...	...	
	Mándvi	568	...	...	568	...	...	
	Railway strips from Vásad to A'nand and Nadiád to river shed	5 miles.	...	5 miles.	...	...	...	
	Total ...	2,615 5 miles.	17	1,715 5 miles.	917	...	11	
Panch Mahals ...	Godhra	78	74	...	152	...	...	
	Kálol	16	12	...	28	...	...	
	Hálol	19	20	...	39	...	...	
	Dohad	22	22	...	44	...	...	
	Jhálod	13	12	...	25	...	...	
	Total ...	148	140	...	288	...	...	
	Total Cultural Operations ...	157,078 5 miles.	42,699	1,815 5 miles.	197,962	...	8,147	
	Grand Total ...	161,701 5 miles.	43,539	1,815 5 miles.	203,425	...	10,177	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 53.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Trees felled by Government agency during the year 1888-89.
(Selection Fellings.)

Division.	Trees felled. Description.	Number.	Remarks.
North Thána	Nil	...	There are no selection fellings in these divisions.
South Thána	Nil	...	
East Khándesh	Nil	...	
West Khándesh... ...	Teak	37,275	
	Tiwas	373	
	Anjan...	23,160	
	Dhávda	231	
	Khair...	2,527	
	Ain	56	
	Bábul...	286	
	Miscellaneous ...	270	
	Total ...	64,178	
Násik	Nil	...	Do. do.
Ahmednagar	Nil	...	
Poona	Nil	...	
Sátára	Nil	...	
Sholápur	Nil	...	
Surat	Teak	3,583	
Panch Mahals	Nil	...	There is no selection felling in this division.
	Grand Total ...	67,761	
	Abstract of the Circle.		
	Teak	40,858	
	Tiwas	373	
	Anjan...	23,160	
	Dhávda	231	
	Khair	2,527	
	Ain	56	
	Bábul	286	
	Miscellaneous ...	270	
	Total ...	67,761	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 54.

Forest Department, Bombay, Northern Circle.

Outturn of Timber and Firewood during the year 1888-89.

Division.	Description of Materials.	Outturn in Cubic Feet.								Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers.	Free Grants.	Right-holders.	
North Thána.	Teak pieces	...	...	308,099	308,099	26,152	281,488	459	...	
	Junglewood pieces	...	...	1,494	1,494	...	...	...	...	
	Firewood ... Khandis.	...	...	84,235	84,235	8,106	76,129	...	...	
	Do. under permit system... Khandis.	...	..	6,446	6,446	...	6,446	..	...	
	Bámbus ... .. No.	...	...	319,059	319,059	...	319,059	...	...	
	Do. ... Cart-loads.	...	...	2,463	2,463	...	2,463	...	...	
	Kitta ... ... Do.	...	...	2,843	2,843	...	2,843	...	...	
	Ain bark	...	...	5	5	5	...	...	...	
	Myrabolans	...	...	109	109	109	...	...	...	
	Karvi ... ... Cart-loads.	...	...	749	749	...	749	...	...	
South Thána.	Teak pieces	...	364,221	...	364,221	12,864	350,928	429	...	
	Sisu wood	...	18	...	18	18	...	...	...	
	Junglewood	...	40,799	...	40,799	3,936	34,854	2,009	...	
	Firewood pieces	...	336	...	336	336	...	...	...	
	Do. Khandis.	...	37,264	...	37,264	3,178	34,086	...	...	
	Bámbus ... Head-loads.	...	2,631	...	2,631	31	2,600	...	...	
	Do. ... Cart-loads.	...	221	...	221	...	221	...	...	
	Do. ... ... No.	...	155,746	...	155,746	2,175	153,571	...	...	
East Khándesh.	Teak rafters	...	...	20,000	20,000	20,000	..	...	...	
	Do., pieces	...	...	25	25	...	25	...	...	
	Do. ... Cart-loads.	...	...	2	2	...	2	...	...	
	Do, ... Head-loads.	...	...	231	231	...	231	...	...	
	Junglewood rafters	...	...	2,500	2,500	2,500 Logs.	... Pieces.	...	...	
	Do. pieces	...	...	965	965	500	465	...	...	
	Do. ... Cart-loads.	...	...	2,414	2,414	...	2,414	...	...	
	Do. ...Bullock-loads	...	...	1,002	1,002	...	1,002	...	...	
	Do. ...Buffalo-loads	...	...	464	464	...	464	...	...	
	Do. ... Head-loads.	...	...	5,912	5,912	...	5,912	...	...	
	Firewood ... Khandis.	...	...	9,525	9,525	9,525	...	...	...	
	Do. ... Cart-loads.	...	...	27,582	27,582	...	27,582	...	..	
	Do. ... Head-loads.	...	...	3,185	3,185	...	3,185	...	...	
	Do. ...Bullock-loads	...	...	1,300	1,300	...	1,300	...	...	
	Do. ...Donkey-loads.	...	...	410	410	...	410	...	...	
	Do. ... Horse-loads.	...	...	37	37	...	37	...	...	
	Bámbus ... Head-loads.	...	...	1,040	1,040	...	1,040	...	...	
	Do. ... ... No.	...	...	256,800	256,800	...	256,800	...	...	
West Khándesh.	Teak logs	...	2,569	772	3,341	1,584	...	...	...	1,757 remained unsold.
	Do. rafters...	...	34,235	10,905	45,140	37,336	...	...	...	7,804 do.
	Do. pieces	...	28,360	16,266	44,626	39,703	164	22	...	4,737 do.
	Junglewood pieces	...	...	2,293	2,293	1,283	580	430	...	
	Do. ... Cart-loads.	...	...	14,357	14,357	...	14,357	...	...	
	Firewood ... C. feet.	...	11,862	353,500	365,362	134,937	...	...	...	230,425 do.
	Do. ... Cart-loads.	...	...	14,640	14,640	...	14,640	...	...	
	Bámbus ... ... No.	...	...	256,772	256,772	...	256,772	...	...	
Násik.	Teak rafters (of 1887-88) ...	—	77,417	...	77,417	76,894	...	493	...	Balance 30 of the year 1887-88.
	Do. do.	...	36,523	..	36,523	22,278	6,644	2,507	...	Balance 5,394
	Do. pieces	...	132	...	132	...	24	108	...	
	Do. logs	...	644	...	644	...	644	...	...	
	Do. green ... C. feet.	...	1,432	...	1,432	...	1,432	...	...	
	Tiwas do. ... Do. ...	...	17	...	17	...	17	...	...	
	Khair do. ... Do. ...	...	44	...	44	...	44	..	...	
	Kinhai do. ... Do. ...	...	2	...	2	...	2	...	...	
	Ain do. ... Do. ...	...	1	...	1	...	1	...	...	
	Sisu do. ... Do. ...	...	172	...	172	...	172	...	...	
	Hed do. ... Do. ...	...	104	...	104	...	104	...	...	
	Junglewood pieces	...	3,174	...	3,174	950	871	1,353	...	
	Firewood (Bombay Khandis of 1887-88)	...	1,148	...	1,148	148	...	...	...	Balance 1,000 Khandis of 1887-88.
	Firewood pieces	...	298	...	298	174	124	...	...	
	Do. (Khandis of 1888-89)	...	5,857	...	5,857	4,199	941	108	...	Balance 609 Khandis.
	Bámbus ... ... No.	...	178,407	...	178,407	...	178,407	...	...	
	Do. ... Head-loads.	...	831	...	831	...	831	...	...	
	Do. ... Cart-loads.	...	91	...	91	...	91	...	...	

FORM No. 54—*continued.*

Division.	Description of Materials.	Outturn in Cubic Feet.								Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers.	Free Grants.	Right-holders.	
Ahmednagar.	Teak rafters	...	...	50,246	50,246	50,246	...	...	...	
	Jambul rafters	...	...	15,114	15,114	15,114	...	...	...	
	Junglewood timber... ...	...	...	2,784	2,784	...	2,784	...	...	
	Do. rafters... ...	...	...	200	200	...	...	200	...	
	Firewood ... C. feet.	...	...	81,184	81,184	74,340	6,844	...	...	
Poona.	Teak rafters...	...	...	136,433	136,433	136,348	...	85	...	
	Do. firewood. C. feet.	...	...	64,662	64,662	62,462	...	2,200	...	
	Firewood ...C. ft. stacked.	...	170,700 C. feet.	29,380 Pieces.	200,080	170,700 C. feet.	* 29,380 *Pieces.	...	...	* Dead fallen wood.
	Junglewood logs. ...C. feet	...	59,946	4,848	64,794	59,946	770	4,078	...	
	Bámbus, pieces	169,849	...	...	169,849	...	169,849	...	...	
Sátára.	Teak trees	...	4,797	...	4,797	4	4,793	...	...	
	Do rafters...	...	...	48,828	48,828	48,239	309	280	...	
	Junglewood rafters... ...	...	...	14,298	14,298	10,843	3,067	388	...	
	Firewood ... C. feet.	...	...	189,078 Kh. m.	189,078 Kh. m.	174,405 Kh. m.	14,663	10	...	
	Charcoal ... Khandis.	...	...	11 27	11 27	11 27	...	...	...	
	Bámbus ... ... No.	...	...	11,427	11,427	310	11,117	...	...	
	Do. ... Head-loads.	...	...	422	422	60	362	...	...	
Sholápur.	Junglewood logs C. feet.	...	...	1,352	1,352	1,352	...	...	...	
	Sandalwood trees ... No.	...	324	...	324	..	324	...	...	
	Firewood ... C. feet.	...	...	18,172 Kh. m.	18,172 Kh. m.	16,718	... Kh. m.	..	...	1,454 cubic feet unsold.
	Do. ... Khandis.	...	...	11 14	11 14	...	11 14	...	...	
Surat.	Teak green ... Khandis.	4,662	...	...	4,662	2,272	2,390	...	...	
	Do. dry ... Do.	...	1,175	...	1,175	1,175	..	...	...	
	Do. green pieces	...	...	170	170	...	170	...	...	
	Do. rafters	48,510	...	24	48,534	48,510	...	24	...	
	Do. beams, pieces	3,243	240	3	3,486	3,243	240	3	..	
	Do. sleepers, pieces. ...	1,850	...	...	1,850	1,850	...	..	...	
	Do. logs ... Khandis.	...	62	...	62	...	62	..	...	
	Tanach ... Do. ...	139	...	...	139	...	139	...	...	
	Tanach pieces	19	...	...	19	...	19	...	...	
	Kheir ... ... Khandis.	681	...	8	689	...	681	8	...	
	Do. pieces	..	1	...	1	...	1	...	...	
	Haldwan ... Khandis.	370	... Pieces.	... Khandis.	370	...	370 Pieces.	... Kh.	...	
	Beo pieces, &c. Do. ...	....	2	8	10	...	2	8	...	
	Sadada pieces	2,440	1	...	2,441	...	2,441	...	..	
	Sisu pieces	...	1	...	1	...	1	...	...	
	Junglewood pieces	40,187½	...	8½	40,196	...	40,187½	8½	...	
	Do. dandi	200	...	...	200	...	200	...	...	
	Firewood ... Khandis.	5,078	...	...	5,078	...	5,078	...	...	
	Bámbus ... ... No.	538,002	...	1,325	539,327	...	538,002	1,325	...	
	Do. ... Cart-loads.	17	...	...	17	...	17	...	...	
	Do. ... Head-loads.	1,088	...	..	1,088	...	1,088	..	...	
Panch Mahals.	Teak pieces	...	82	47,930	48,012	815	47,002	88	...	Balance 107.
	Do. poles	...	277	12,225	12,502	1,075	11,146	...	...	Do. 281.
	Do. rafters...	...	1,483	142,520	144,003	18,359	102,538	4,624	...	Do. 18,482.
	Do. gazas of 10½ C. feet.	...	...	23⅛	23⅛	...	8⅝	15½	...	
	Do. ... ... Cart-loads.	...	...	5	5	...	...	5	...	
	Junglewood pieces	...	252	387	639	192	167	24	...	Do. 256.
	Do. rafters... ..	...	...	578	578	37	145	396	...	
	Do. gazas of 10½ C. feet.	...	...	1¾	1¾	...	..	1¾	...	
	Firewood ... C. feet.	...	71,424	114,762 Kh. m.	186,186 Kh. m.	34,890	... Kh. m.	...	...	Do. 151,296.
	Do. ... Khandis.	...	...	3,347 2½	3,347 2½	..	3,347 2½	...	...	
	Do. ... Cart-loads.	...	...	1,970½	1,970½	81½	1,889	...	...	
	Do. ... Head-loads.	...	...	129	129	77	52	...	...	
	Charcoal	...	...	140	140	...	140	...	...	
	Bámbus ... ... No.	...	...	162,291	162,291	80	162,123	88	...	
	Do. ... Head-loads.	...	...	7	7	7	...	...	...	
	Canes	...	...	10,582	10,582	...	10,582	..	...	
	Do. ... Cart-loads.	...	...	5	5	...	5	...	...	
	Do. ... Head-loads.	...	...	2	2	...	2	...	...	

Dated Poona, 31st October 1889.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

B 623—17 N.C

FORM No. 55.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	PRODUCE REMOVED OR UTILIZED. By Government Agency. Quantity.	By Government Agency. Value.	By Purchasers. Quantity.	By Purchasers. Value.	By Free Grants. Quantity	By Free Grants. Value.	By Right-holders. Quantity.	By Right-holders. Value.	Total. Quantity.	Total. Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
North Thána.	Apta, temburni, pallas and brab tree leaves	..	..	....	3,118	..	..	....	..	....	3,118
	Shembi and ain bark Khandis.	61	61	....	85	..	..	....	..	61	146
	Bháwá pods	..	..	....	10	..	..	....	..	....	10
	Brab tree fruits	..	..	....	103	..	..	....	..	....	103
	Gums	..	..	....	795	..	..	....	..	....	795
	Stones, &c. .. Cart-loads.	..	..	205	57	..	..	....	..	205	57
	Karvi Do.	..	..	1,553	403	..	..	....	..	1,553	403
	Do. Head-loads.	..	..	1,307	41	..	..	....	..	1,307	41
	Myrabolans Khandis.	109	1,727	....	..	..	..	....	..	109	1,727
	Rab material Cart-loads.	..	..	81	6	..	..	....	..	81	6
	Total	..	1,788	....	4,618	..	..	....	..	....	6,406
South Thána.	Hirda Khandis.	265	4,407	....	..	..	..	....	..	265	4,407
	Karvi Cart-loads.	..	..	1,180	357	..	..	....	..	1,180	357
	Do. Head-loads.	46	3	578	19	..	..	....	..	624	22
	Palm, teak, apta and temburni leaves	490	1	....	40	..	..	....	..	490	41
	Apta, temburni and chelari bark	..	..	....	1,836	..	..	....	..	....	1,836
	Gums	..	..	....	47	..	..	....	..	....	47
	Thorns Cart-loads.	..	..	5	5	..	..	....	..	5	5
	Do. Head-loads.	..	..	9	1	..	..	....	..	9	1
	Stones Cart-loads.	..	..	15	6	..	..	....	..	15	6
	Mowra flowers	..	..	....	63	..	..	....	..	....	63
	Dead palm trees	..	..	16	1	..	..	....	..	16	1
	Grass bundles	13	1	....	..	..	..	....	..	13	1
	Total	..	4,412	....	2,375	..	..	....	..	....	6,787
East Khándesh.	Stones Cart-loads.	..	..	1,647	267	..	..	....	..	1,647	267
	Limestones Do.	..	..	164	20	..	..	....	..	164	20
	Thorns Do.	..	..	820	92	..	..	....	..	820	92
	Roshagrass stills .. No.	..	..	4	56	..	..	....	..	4	56
	Mango fruits	..	..	....	12	..	..	....	..	....	12
	Manure	..	..	....	19	..	..	....	..	....	19
	Damages for anjan leaves and thorns, &c.	..	..	....	76	..	..	....	..	....	76
	Total	..	..	....	542	..	..	....	..	....	542
West Khándesh.	Roshagrass stills .. No.	..	..	154	7,780	..	..	....	..	154	7,780
	Grass Cart-loads.	..	..	55,429	6,929	..	..	....	..	55,429	6,929
	Grazing by fee system	..	..	....	47,908	..	..	....	..	....	47,908
	Reeds and karvi Cart-loads.	..	..	1,115	159	..	..	....	..	1,115	159
	Thorns Do.	..	..	946	130	..	..	....	..	946	130
	Earth Do.	..	..	1,210	151	..	..	....	..	1,210	151
	Manure Do.	..	..	938	168	..	..	....	..	938	168
	Anjan leaves Do.	58	10	....	..	..	..	....	..	58	10
	Tarwad bark	..	..	....	18	..	..	....	..	....	18
	Mango fruits	..	..	....	127	..	..	....	..	....	127
	Stones Cart-loads.	..	..	2,501	338	..	..	....	..	2,501	338
	Total	..	10	....	63,708	..	..	....	..	....	63,718
Násik.	Stones Cubic feet.	..	..	17,876	78	..	..	....	..	17,876	78
	Do. Cart-loads	..	..	20	2	698	40	....	..	718	42
	Tarwad bark.	..	..	....	82	..	..	....	..	....	82
	Manure Cart-loads.	..	..	299	103	..	..	....	..	299	103
	Karvi Head-loads.	..	..	5,163	81	..	..	....	..	5,163	81
	Do. Cart-loads.	..	..	252	8	..	..	....	..	252	8
	Cart-loads and head-loads of rab material	..	..	30	10	..	..	....	..	30	10
	Thorns Cart-loads.	..	..	87	25	..	..	....	..	87	25
	Do. Head-loads.	..	..	74	5	..	..	....	..	74	5
	Do. Bullock-loads.	..	..	86	15	..	..	....	..	86	15
	Grass oil furnaces .. No.	..	..	54	636	..	..	....	..	54	636
	Earth Cubic-feet.	..	..	1,200	1	..	..	....	..	1,200	1
	Anjan, temburni and apta leaves	..	..	....	327	..	..	....	..	....	327
	Bricks and tiles .. No.	..	..	30,000	15	..	..	....	..	30,000	15
	Grass and grazing by auction	..	..	....	16,883	..	..	....	..	....	16,883
	Grazing by fee system	..	..	....	25,524	..	..	....	..	....	25,524
	Fruits	..	..	....	13	..	..	....	..	....	13
	Total	..	..	....	43,813	..	40	....	..	....	43,853
Ahmednagar.	Hirda	..	2,056	....	..	..	..	....	..	....	2,056
	Stones Cart-loads.	..	..	6,570	475	..	..	....	..	6,570	475
	Karvi	..	..	889	28	..	..	....	..	889	28
	Fruits	..	..	....	162	..	..	....	..	....	162
	Tarwad	..	..	....	672	..	..	....	..	....	672
	Manure Cart-loads.	..	..	35	20	..	..	....	..	35	20
	Earth Do.	..	..	140	15	..	..	....	..	140	15
	Damages to leaves	..	..	....	32	..	..	....	..	....	32
	Miscellaneous	..	..	....	14	..	..	....	..	....	14
	Total	..	2,056	....	1,418	..	..	....	..	....	3,474

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
Poona.	Hirda .. .. .. Khandis.	272	3,538	....	..	..	..	....	..	272	3,538
	Grass and grazing	..	..	....	52,355	..	85,000	....	..	....	1,37,355
	Karvi	..	..	....	489	..	..	....	..	....	489
	Tarwad	..	..	....	1,926	..	..	....	..	....	1,926
	Stones and earth	..	..	....	212	5,808	1,487	....	..	5,808	1,699
	Fruits	..	..	....	145	..	..	....	..	....	145
	Rab	..	..	....	..	..	725	....	..	....	725
	Miscellaneous	..	..	....	129	..	..	....	..	....	129
	Total ..	..	3,538	....	55,156	..	87,212	....	..	....	1,45,906
Sátára.	Grass and grazing	..	..	....	40,500	..	..	....	..	....	40,500
	Hirda .. .. .. Khandis.	288	13,017	....	201	..	..	....	..	288	14,118
	Shikakai	54	1,398	....	683	..	..	....	..	54	2,081
	Stones .. .. Cart-loads.	..	..	12,654	804	..	..	....	..	12,654	804
	Earth .. .. .. Do. ..	..	..	161	28	..	..	....	..	161	28
	Aloe leaves .. .. Head-loads.	..	..	249	5	..	..	....	..	249	5
	Creepers .. .. Do. ..	..	..	69	7	..	..	....	..	69	7
	Thorns .. .. Do. ..	..	..	16,815	1,124	..	..	....	..	16,815	1,124
	Tarwad .. .. Do. ..	..	..	15,385	1,158	..	..	....	..	15,385	1,158
	Mango and Jack fruits	..	..	6,470	14	..	..	....	..	6,470	14
	Karanj pods	..	..	6	3	..	..	....	..	6	3
	Kawal .. .. Head-loads.	..	..	269	17	..	..	....	..	269	17
	Total ..	..	15,315	....	44,544	..	..	....	..	....	59,859
Sholápur.	Bábul bark .. .. Khandis.	8	16	....	..	..	..	....	..	8	16
	Tamarind fruits	..	..	....	7	..	..	....	..	....	7
	Tarwad	..	..	....	500	..	..	....	..	....	500
	Stones .. .. Cart-loads.	..	..	25	13	..	..	....	..	25	13
	Aloe and Sindi trees .. No.	..	..	120	8	..	..	....	..	120	8
	Teak leaves	..	..	....	1	..	..	....	..	....	1
	Total ..	..	16	....	529	..	..	....	..	....	545
Surat.	Grass and grazing	....	..	....	794	..	..	....	..	....	794
	Timru and Khakhar leaves Cart-loads.	..	..	99	65	..	..	....	..	99	65
	Ashindra leaves .. Do. ..	..	..	16	32	..	..	....	..	16	32
	Do. do. .. Bundles.	..	..	1,163,275	245	..	..	....	..	1,163,275	245
	Mowra flowers	..	..	972	108	..	..	....	..	972	108
	Bhos Baru, ... Cart-loads.	..	..	392	99	..	..	....	..	392	99
	Honey and wax .. .. Mds.	..	..	274	103	..	..	....	..	274	103
	Bámbu mats	..	..	4,870	268	..	..	....	..	4,870	268
	Date and palm trees	..	..	78	5	..	..	....	..	78	5
	Earth and kankar .. Cart-loads.	..	..	5	1	..	..	....	..	5	1
	Gum and Lac	..	..	28	11	..	..	....	..	28	11
	Catechu furnaces	..	..	90	5,400	..	..	....	..	90	5,400
	Total ..	..	..	....	7,131	..	..	....	..	....	7,131
Panch Mahals.	Grass and grazing	..	..	....	5,732	..	..	....	..	....	5,732
	Stones and kankar .. Cart-loads.	..	..	40	20	..	..	....	..	40	20
	Mowra flowers	..	..	....	2,140	..	..	....	..	....	2,140
	Sand .. .. .. Cubic feet.	..	..	12,362	18	..	..	....	..	12,362	18
	Thorns .. .. Cart-loads.	..	..	43	11	..	..	....	..	43	11
	Seed .. .. Mds.	164	165	....	..	..	..	....	..	164	165
	Manure .. .. Cart-loads.	..	..	8	3	..	..	....	..	8	3
	Sali and wood for Mándvés, &c.	..	..	....	5	..	..	....	..	....	5
	Total ..	..	165	....	7,929	..	..	....	..	....	8,094

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1888-89.

TIMBER.

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Balance at commencement of the year.				
North Thána ... Teak logs and rafters ...	643	.....		
North Thána ... Junglewood pieces ...	616	.....	1,259	
West Khándesh ... Teak pieces ...	1,062	.....	1,062	
Násik ... ... Teak logs and rafters ...	77,417	.....	77,417	
Sátára ... ... Junglewood do. ...	1,196	.....	1,196	
		Kh. ft. in. p.		
Surat ... ... Teak pieces, green ...	742	1,237 0 0 0		
Surat ... ... Do. do. ...	49,767	.....		
Surat ... ... Sadada do ...	2,438	.....		
Surat ... ... Junglewood do. ...	696	.....		
				Kh. ft. in. p.
			53,643	1,237 0 0 0
Total Balance ..	.....	.....	134,577	1,237 0 0 0
Received from the Forests in Depôts.				
Teak logs and rafters	377,570	.....		
Do. pieces	61,925	.....		
		Kh. ft. in. p.		
Do. green	1,394	2,272 1 1 10		
Jámbul rafters	15,114	.....		
Junglewood rafters	10,843	.....		
Do. pieces	14,255	.....		
Miscellaneous do.	416	.....		

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Sold locally.				
Teak logs and rafters	405,973	.....		
Do. pieces	105,349	.....		
		Kh. ft. in. p.		
Do. do. green	2,136	3,509 1 1 10		
Jámbul rafters	15,028	.....		
Junglewood do.	9,258	.....		
Do. pieces	17,749	.....		
Miscellaneous do.	272	.....		Kh. ft. in. p.
			555,765	3,509 1 1 10
Sold from Depôt.				
Junglewood rafters	65	.....	65	
Free grant.				
Teak rafters	13,986	.....		
Do. pieces	361	.....	14,347	
Used by the Department.				
Junglewood rafters	2,106	.....	2,106	
			572,283	3,509 1 1 10
Balance at the close of the year.				
North Thána ... Teak logs and rafters ...	2,204	.....	2,204	
West Khándesh ... Do. do. ...	9,561	.....		
West Khándesh ... Do. pieces ...	4,737	.....	14,298	
Násik ... ... Teak logs and rafters ...	5,424	.....	5,424	

FORM No. 56—*continued.*

Particulars.	Number or Quantity	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.	Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
					BA'MBUS.				
Balance at commencement of the year.					*Sold locally.*				
Sátára Bámbus	255	.....	255	.....	Bámbus	2,255	.....	.....	
Received from the Forests in Depôts.					Do. ... ...Head-loads...	38	.....	2,293	
Pámbus	2,565	.....	.....	.....	*Sold from Depôt*				
Do ... ...Head-loads...	98	.....	2,663	.....	Bámbus	565	.....	565	
					Used by the Department.				
					Bámbu ... ...Head-loads...	60	.....	60	
					Balance at the close of the year ...	.....	.....	2,918	
Total ...	.....	.....	2,918	.....	Total ...	.....	.....	2,918	
					OTHER MINOR PRODUCE.				
Balance at commencement of the year:		K. m. lbs.		K. m. lbs.	*Sold locally.*		K. m. lbs.		K. m. lbs.
North Thána .. Ain bark .. Khándis ...	.....	51 0 0	.....	51 0 0	Aim bark	.....	53 21 0		
South Thána... { Hirda ... ... Do ...	.....	2 15 6			Babul do	.....	8 2 0		
{ Seed ... ... Do ...	.....	4 19 12			Hirda	.....	991 22 23¼		
				7 6 18	Shikakai	.....	49 12 0		
Násik ... ... Hirda ... ... Do ...	.....	4 9 0	.....	4 9 0	Thorn ... ...Cart-loads ...	2	.....		
Ahmednagar .. Seed ... ... Do ...	.....	45 1 15	.....	45 1 15	Apta leaves ... ...Bundles ...	490	.....		
{ Hirda ... Do ...	.....	141 6 2¾	}		Temburni leaves ... ...Cart-loads ...	1	.....		
Sátára { Skikakai ... Do ...	.....	49 12 0		223 9 3¾	Karvi ... ...Head-loads...	46	.....		
{ Seed ... Do ...	.....	32 19 11	}		Grass ... ...Bundles ...	13	.....		
Surat ... ... Bábul thorn .. Cart-load ...	1	.....	1	.....	Anjan leaves ... ...Cart-loads ...	58	.....		
Panch Mahals Seed		0 27 0	.....	0 27 0					
			1	331 25 18¾				610	1,103 1 23¼

Received from the Forests in Depôts.

Ain bark			4 0 0		
Bábul abrk			8 2 0		
Hirda			1,045 12 5		
Seed			368 27 9		
Apta leaves	Bundles	490	.....		
Tenburni leaves	Cart-loads	1	.....		
Karvi	Head-loads	46	.....		
Grass	Bundles	13	.....		
Anjan leaves	Cart-loads	58	.....		
Teak leaves	Bundles	31	.....		
Thorn	Head-loads	66	.....		
Do	Cart-loads	1	.....		
				706	1,426 13 14
Total			.....	707	1,758 11 4½

Used by the Department.

Hirda		.....	4 9 0		
Seed		.....	303 14 9		
Thorn	Head-loads	66	.....	66	307 23 9
Lost or written off.					
Hirda		.....	47 9 0	.....	47 9 0
				676	1,458 6 4½
Balance at close of the year.					
North Thána	Ain bark	.....	1 7 0	.....	1 7 0
South Thána	Hirda	.....	8 5 16	.....	41 16 19
	Seed	.....	33 11 3		
West Khándesh	Teak leaves, Bundles	31	.....	31	
Ahmednagar	Seed	.....	25 23 26	.....	25 23 26
Poona	Hirda	.....	0 19 0	.....	0 19 0
Sátára	Hirda	.....	141 5 2½	.....	229 1 10½
	Seed	.....	87 24 8		
Panch Mahálś	Do.	.....	1 21 1	.....	1 21 1
	Total Balance	.....	.....	31	300 5 0½
	Total	.....	.....	707	1,758 11 4½

Dated Poona, 21st October 1889.

A. T. SHUTTLEWORTH,
Conservater of Forests, Northern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1888-89.

Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
North Thána Division.		K. m. s.	Rs.		K. m. s.	Rs.	Rs.	Rs.	
Teak pieces...	613	.....	300	2204	.....	2,000	...	...	
Junglewood pieces ...	616	.....	200	...	.....	...	...	...	
Firewood	...	33 0 0	17	...	35 0 0	17	...	...	
Ain bark	...	50 0 0	50	...	1 1¼	1	...	...	
Total ...	...	.....	567	...	.....	2,018	1,451	...	
South Thána Division.									
Hirda nuts...	...	2 15 6	30	...	8 5 16	136	...	...	
Miscellaneous seeds ...	...	4 19 12	...	...	33 11 3	...	...	...	
Total ...	...	.....	30	...	.....	136	106	...	
East Khándesh Division.									
Seeds	...	6 20 2	...	...	10 14 1	...	...	...	
Total ...	...	.....	...	...	.....	...	...	...	
West Khándesh Division.									
Teak logs	...	.....	...	1,767	.....	5,163	...	...	
Do. rafters	...	.....	...	7,804					
Do. pieces	1,062	.....	106	4,737					
Fuel...	...	60 khs. Cub. ft. 3,000	26	...	Cub. ft. 230,425	4,608	...	...	
Teak leaves ... Bundles...	...	.....	...	31	.....	2	...	...	
Total ...	...	.....	132	...	.....	9,773	9,641	...	
Násik Division.									
Teak rafters	77,417	.....	30,800	30	.....	1,627	...	...	
				5,394					
Firewood	...	1,148 0 0	570	...	1,000 Cub. ft. 27,406	800	...		
Hirda	..	4 9 0	50	...	.....	...	...	...	
Total ...	...	.....	31,420	...	.....	2,427	...	28,993	
Ahmednagar Division.									
Seeds	...	45 1 15	...	...	25 23 26	...	...	...	
Jambul rafters	...	.....	...	86	.....	3	...	...	
Total ...	...	.....	...	...	.....	3	3	...	
Poona Division.									
Hirda	...	.....	...	...	Mds. 19	10	...	...	
Total ...	...	.....	...	...	.....	10	10	...	

FORM No. 57—*continued.*

Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
		K. m. s.	Rs.		K. m. s.	Rs.	Rs.	Rs.	
Sátára Division.									
Teak trees	...	.....	...	4	.....	5	...	...	
Firewood	...	545 13 0	500	...	225 14 0	200	...	...	
Charcoal	...	12 7 0	70	...	0 8 0	4	...	...	
Bámbus	255	.....	5	...	.....	...	...	...	
Hirda	...	141 6 2¾	500	...	141 5 2½	500	...	...	
Shikakai	...	49 12 0	325	...	.....	...	...	...	
Seeds	...	32 19 11	...	...	87 24 8	...	...	...	
Junglewood rafters ...	1,196	.....	200	611	.....	125	...	...	
Total ...	...	.....	1,600	...	.....	834	...	766	
Sholápur Division.									
					Cub. ft.				
Firewood	...	.....	...	...	1,454	39	...	...	
Total ...	...	.....	...	...	.....	39	39	...	
Surat Division.									
Teak pieces	46,245	.....	18,825	2,063	.....	1,200	...	...	
Sadada pieces	2,438	.....	400	...	.....	...	...	...	
Rájaloo do.	696								
		Tons.							
Firewood	...	180	900	...	.....	...	...	...	
		Khandis.							
Teak firewood	...	550	100	...	.....	...	...	...	
Jungle firewood	...	886							
Teak timber	...	1,237	6,185	...	.....	...	...	...	
Bámbu	...	.....	...	134	.....	2	...	...	
Total ...	...	.....	26,410	...	.....	1,202	...	25,208	
Panch Mahál Division.									
Teak poles and pieces ...	...	.....	...	388	.....	250	...	...	
Teak rafters	...	.....	...	18,482	.....	800	...	...	
Junglewood pieces ...	...	.....	...	256	.....	10	...	...	
					Cub. ft.				
Firewood	...	.....	...	...	151,296	2,000	...	...	
		K. m. s.			K. m. s.				
Seeds	...	0 38 16	27	...	0 49 12	50	...	...	
Total ...	...	.....	27	...	.....	3,110	3,083	...	

Net difference against the year Rs. 40,646

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 57A.

Forest Department, Bombay, Northern Circle.

Abstract showing the Value of Live and Dead Stock for the year 1888-89.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
North Thána.							
Parol bungalow	1	1,200	1	1,200	...	...	
Náka house at Mándvi	1	250	1	250	...	...	
Do. at Mánikpur	1	603	1	603	...	...	
Forest stations	38	570	38	570	...	...	
Do. posts	82	840	82	840	...	...	
Office tent	1	273	1	273	...	...	
Great-coats...	226	1,359	226	1,359	...	...	
Tools, plant and office furniture ...	...	2,774	...	2,774	...	...	
Total ...	...	7,869	...	7,869	...	...	
South Thána.							
Office tent	1	273	2	273	...	...	
Small rowties	2	186		186	...	...	
Great-coats...	263	1,713	263	1,713	...	...	
Tools, plant and office furniture ...	...	581	...	808	...	...	
Total ...	...	2,753	...	2,981	228	...	
East Khándesh.							
Office tent	1	248	1	248	...	...	
Great-coats	192	1,254	192	1,254	...	...	
Tools, plant and office furniture ...	...	560	...	648	...	...	
Total ...	...	2,062	...	2,150	88	...	
West Khándesh.							
Great-coats	219	1,428	219	1,428	...	...	
Tools, plant and office furniture ...	...	1,054	...	4,676	...	...	
Total ...	...	2,482	...	6,104	3,622	...	
Násik.							
Office tents	2	300	2	300	...	...	
Great-coats...	592	1,976	592	1,976	...	...	
Tools, plant and office furniture ...	...	258	...	258	...	...	
Total ...	...	2,534	...	2,534	...	...	
Ahmednayar.							
Sleeping pál 12″ × 12′, double fly ..	1	246	1	246	...	...	
Office room, Range Forest Officer, Karjat	1	214	1	214	...	..	
Hirda depôt, Singanvádi	1	25	1	25	...	...	
Forest rest-houses	3	90	3	90	...	...	
Great-coats...	208	1,357	208	1,357	...	...	
Tools, plant and office furniture ...	...	2,074	...	986	...	...	
Total ...	...	4,006	...	2,918	...	1,088	

FORM No. 57A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
Poona.							
Office tent	1	273	1	273	...	...	
Range Forest Officers' offices ...	5	7,752	5	7,752	...	...	
Great-coats	1,371	3,655	1,371	3,655	...	...	
Tools, plant and office furniture ...	...	345	...	410	...	...	
Total ...	...	12,025	...	12,090	65	...	
Stára.							
Bungalow at Málcolmpeth ...	1	700	1	700	...	...	
Pál with double fly	1	245	1	245	...	...	
Great-coats	246	1,606	244	1,708	...	...	
Tools, plant and office furniture ...	...	742	...	825	...	...	
Total ...	...	3,293	...	3,478	185	...	
Sholápur.							
Office tent	1	100	1	100	...	...	
Great-coats	119	777	119	777	...	...	
Tools, plant and office furniture ...	...	231	...	231	...	...	
Total ...	...	1,108	...	1,108	...	...	
Surat.							
Office tent, 12 feet	1	246	1	246	...	...	
Andhatri bungalow	1	291	1	291	...	...	
Dhadahvada bungalow	1	30	1	80	...	...	
Tárápur do.	...	...	1	100	...	...	
Large Waghai do.	2	1,099	2	1,099	...	...	
Small do. do.							
Large Pimpri do.	1	499	1	499	...	...	
Do. Garvi do.	1	1,012	1	1,012	...	...	
Small do. do.	1	288	1	288	...	...	
Great-coats .. .., ...	67	438	73	484	...	...	
Tools, plant and office furniture ...	...	917	...	2,204	...	...	
Total ..	...	4,820	...	6,057	1,237	...	
Panch Maháls.							
Rest-houses and depôts	30	2,250	34	2,410	...	...	
Bungalow	1	8,200	1	8,200	...	...	
Office rowti with carpets	1	273	1	273	...	...	
Great-coats	110	717	110	717	...	...	
Tools, plant and office furniture ...	...	956	...	924	...	...	
Total ...	...	12,396	...	12,524	128	...	
Working Plans.							
Office tent	1	285	1	285	...	...	
Tools, plant and office furniture ...	...	1,086	...	1,086	...	...	
Total ..	...	1,371	...	1,371	...	...	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1889.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions to the year ending 1888-89.

Budget Heads.	Direction.	Ahmednagar Division.	East Khándesh Division.	West Khándesh Division.	Násik Division.	Panch Máhals Division.	Poona Division.	Sátára Division.	Sholápur Division.	Surat Division.	North Thána Division.	South Thána Division.	Working Plans Division.	Total.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—														
a. Timber	....	7,336 0 11	7,721 15 10	20,239 7 9	29,356 2 6	1,088 14 0	27,698 10 0	16,491 3 8	173 4 0	41,889 5 4	14,771 6 8	7,665 1 0	....	1,74,331 7 2
b. Firewood and charcoal	....	1,294 3 9	10,101 2 0	2,599 9 0	2,917 11 0	739 2 0	10,939 12 0	4,000 11 9	1,134 0 6	302 8 10	9,133 7 6	2,546 7 6	....	45,758 11 4
c. Bámbus	....	....	....	....	....	....	....	6 1 4	....	....	1 4 0	....	....	7 5 4
d. Sandalwood	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Grass and other minor produce	....	2,056 8 10	....	7 0 0	0 1 0	37 8 0	3,538 7 10	15,315 8 0	16 2 6	....	1,389 1 6	4,319 11 1	....	27,080 0 9
II.—Timber and other produce removed from the Forests by consumers or purchasers—														
a. Timber	....	217 0 2	3,771 7 3	14,395 4 9	9,192 14 6	33,927 2 2	129 10 9	4,051 15 0	290 2 3	35,744 7 9	1,53,391 13 9	1,67,816 2 8	....	4,22,428 1 0
b. Firewood and charcoal	....	641 4 2	7,220 13 6	3,880 3 0	1,490 1 7	932 1 0	1,673 1 6	413 11 9	51 10 9	1,523 13 2	8,635 13 7	1,198 6 11	....	27,661 0 11
c. Bámbus	....	342 5 1	3,718 9 6	2,562 7 4	4,004 3 9	2,026 5 9	1,752 14 6	282 3 1	....	12,237 0 5	11,892 12 5	3,543 0 9	....	42,362 3 7
d. Grazing and fodder grass	....	40,864 6 4	46,371 14 3	54,870 1 10	43,292 12 9	5,732 9 6	52,354 9 0	40,499 12 6	21,768 10 4	794 11 0	13,316 3 0	7,299 2 8	....	3,27,164 13 5
e. Other minor produce	....	1,416 13 1	542 7 0	9,300 2 0	1,726 7 2	2,196 10 2	2,913 3 6	4,043 12 0	529 10 6	6,349 5 7	4,665 15 6	2,875 9 6	....	36,059 15 6
III.—Confiscated, drift, and waif wood	....	93 14 11	150 2 9	666 11 4	110 2 2	146 8 9	109 3 2	117 4 9	20 6 6	247 0 2	1,643 10 7	1,646 12 2	....	4,911 13 3
IV.—Revenue from Forests not managed by Government—														
a. Duty on foreign timber and other forest produce	....	....	13,550 15 0	1,8307 0 6	117 12 3	....	....	....	....	....	....	....	....	31,975 11 9
b. Revenue from shared and private forests	....	....	....	....	....	400 0 0	314 4 7	....	....	91 0 10	1,682 2 9	1,100 0 6	....	3,587 8 8
V.—Miscellaneous—														
a. Fines and forfeitures	....	....	....	....	223 14 0	70 0 4	350 9 7	45 4 7	....	....	101 0 0	4,558 9 6	....	5,349 6 0
b. Refunds	68 7 11	21 0 2	70 15 0	0 1 0	161 3 7	....	4 12 1	7 10 0	11 13 2	....	112 14 0	26 7 4	....	485 4 4
c. Other sources	35 8 0	862 6 5	408 5 7	1,344 6 1	786 8 11	1,136 10 3	70 1 8	81 1 0	651 3 2	628 7 2	4,691 5 6	859 1 8	....	11,555 1 5
Total Revenue	103 15 11	55,145 15 10	93,628 12 0	1,28,172 6 7	93,379 15 2	48,283 7 11	1,01,909 4 2	85,856 2 5	24,646 15 2	90,807 12 3	2,25,878 13 9	2,04,454 15 3	....	11,60,768 8 5
EXPENDITURE.														
A.—CONSERVANCY AND WORKS.														
I.—Timber and other produce removed from the Forests by Government Agency—														
a. Timber	....	1,437 6 0	903 11 11	3,251 0 0	1,665 2 6	426 3 3	2,933 12 11	1,797 4 11	15 0 0	3,552 7 7	4,401 8 9	2,344 5 2	....	22,727 15 0
b. Firewood and charcoal	....	203 10 0	2,739 1 0	1,729 7 6	1,073 9 0	658 11 5	2,429 11 3	1,900 3 3	144 8 9	....	1,890 1 0	844 14 6	....	13,113 13 8
c. Bámbus	....	....	....	....	....	....	....	....	....	0 6 8	....	....	....	0 6 8
d. Sandalwood	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Grass and other minor produce	....	2,253 9 3	....	....	56 5 8	12 8 0	1,360 4 6	6,027 2 4	2 0 0	50 0 0	691 14 4	1,841 0 3	....	12,299 12 4
II.—Timber and other produce removed from the Forests by consumers or purchasers—	....	886 1 9	2,252 11 0	3,583 5 11	1,656 11 6	528 0 3	1,191 8 3	2,242 13 11	....	2,949 14 8	5,159 7 3	3,283 4 9	....	23,833 15 3
III.—Confiscated, drift, and waif wood	....	31 14 5	0 12 0	19 15 5	17 7 0	2 3 0	0 8 0	1 3 2	0 2 6	2 7 5	27 7 6	16 8 0	....	120 8 5

IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	....	....	2,373 8 1	1,643 0 6	....	....	....	....	....	....	....	....	....	....	4,016 8 7
b. Revenue from shared and private forests	....	....	309 5 4	....	....	....	855 12 9	....	....	....	....	....	....	....	1,165 2 1
V.—Rent of Leased Forests and payments to Shareholders in Forests managed by Government	....	198 0 2	....	....	....	....	1,353 10 1	4,412 14 5	....	13,021 15 11	....	7 6 5	....	....	18,993 15 0
VI.—Live Stock, Stores, Tools and Plant—															
a. Purchase of Cattle	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Feed and keep of Cattle	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
c. Stores, Tools and Plant	....	29 15 0	45 0 0	64 14 2	....	14 0 3	14 12 0	4 13 6	....	201 3 9	66 6 0	25 1 0	....	....	455 11 8
VII.—Communications and Buildings—															
a. Roads and Bridges	....	48 9 0	....	....	....	....	....	96 3 6	....	594 3 7	....	....	....	....	739 0 1
b. Buildings	....	1 0 0	291 11 0	893 4 5	3 0 0	252 1 6	....	95 6 0	....	440 2 2	678 14 0	411 5 6	....	....	3,066 12 7
c. Other Works	....	12 0 0	....	....	....	....	....	....	....	....	....	....	....	....	12 0 0
VIII.—Demarcation, Improvement and Extension of Forests—															
a. Demarcation	....	2,194 2 6	800 7 0	5,034 3 4	3,624 2 2	1,400 10 0	5,316 12 6	1,010 15 7	1,326 8 0	389 8 3	2,739 3 2	....	1,169 0 2	25,005 8 8
b. Compensation for Land and Rights	....	2,606 12 10	5,999 8 0	....	....	....	328 0 0	376 7 0	....	....	187 14 0	22,514 10 8	....	32,013 4 6
c. Surveys and Working Plans	1,000 8 3	386 5 0	152 3 9	128 0 0	18,349 14 7	349 0 4	7,823 1 1	8,559 3 11	330 14 9	0 8 0	826 15 8	10,943 13 9	16,936 9 7	65,787 2 8
d. Plantations	....	884 1 1	283 14 2	279 1 1	2,740 12 2	127 2 7	1,332 12 2	859 10 11	1,806 1 11	11 0 0	1,172 15 3	679 13 7	....	10,177 4 11
e. Protection from Fire	....	....	22 6 0	44 13 9	35 14 3	....	0 13 0	14 14 9	....	....	1,105 9 0	472 15 3	....	1,897 6 0
f. Other Works	....	517 13 6	....	12 9 0	8 2 0	....	313 5 4	288 10 2	894 15 3	....	287 12 5	7 4 0	....	2,830 7 8
IX.—Miscellaneous—															
a. Refunds	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Law Charges	....	0 6 9	....	....	....	....	472 7 11	....	....	....	....	842 15 2	....	1,315 13 10
c. Other Charges	....	111 5 9	118 13 0	298 10 1	298 3 0	....	149 8 3	1,005 6 0	1 14 0	800 9 8	113 10 0	5 14 0	....	2,963 13 9
Total A. Conservancy and Works	1,000 8 3	11,803 1 0	16,293 0 3	17,082 5 2	29,529 3 10	3,770 8 7	25,876 12 0	28,603 5 4	4,522 1 2	22,074 7 8	18,839 4 4	44,241 4 0	18,105 9 9	2,41,836 7 4
B. Establishments.															
I.—Salaries—															
a. Conservators	18,000 0 0	....	....	....	....	....	....	....	....	....	....	....	....	18,000 0 0
b. Superior Officers	....	10,091 13 6	5,439 5 9	8,879 6 9	12,046 12 5	7,382 4 2	12,324 1 0	9,900 0 0	5,192 2 5	10,780 0 0	9,400 6 11	10,599 6 11	....	1,01,985 11 10
c. Subordinate Forest and Depôt Establishments	....	24,102 11 7	22,596 15 9	22,707 3 8	33,620 1 0	12,313 11 3	35,427 14 3	23,563 15 1	12,231 11 6	8,075 1 7	25,739 15 11	27,716 10 11	....	2,53,131 0 6
d. Office Establishments	6,697 1 5	2,064 14 11	2,196 0 0	2,501 5 2	2,560 1 1	1,846 8 5	2,536 7 6	2,529 6 0	1,796 9 8	2,180 8 3	3,001 5 7	3,174 11 0	....	33,084 15 0
e. Deputation and Special allowances	314 13 9	....	....	....	....	....	....	....	....	....	....	....	....	314 13 9
II.—Travelling Allowances—															
a. Conservators	2,400 0 0	....	....	....	....	....	....	....	....	....	....	....	....	2,400 0 0
b. Superior Officers	....	1,793 1 2	1,360 9 9	2,407 9 0	2,556 2 7	1,827 13 9	2,520 0 0	2,520 0 0	1,580 15 4	1,787 4 4	3,229 4 3	4,106 0 3	....	25,688 12 5
c. Subordinate Forest and Depôt Establishments	....	1,509 12 3	1,847 10 8	1,367 15 2	1,053 3 5	743 7 0	1,643 10 11	1,722 14 0	835 1 3	857 12 3	1,037 3 3	1,005 11 1	....	14,524 5 3
d. Office Establishments	1,804 0 4	780 7 10	842 6 7	901 13 7	936 5 6	667 15 6	902 5 2	963 12 1	671 13 4	776 7 11	986 4 0	1,051 14 8	....	11,285 10 6
III.—Contingencies—															
a. Stationery	11 8 0	365 10 11	357 8 11	461 5 5	515 5 2	187 12 3	387 5 10	450 4 3	178 9 7	175 6 7	390 6 9	394 7 8	....	3,881 11 4
b. Carriage of Tents and Records	361 15 0	238 14 3	233 0 0	224 12 6	484 4 1	152 6 0	305 8 6	246 13 5	116 11 0	86 12 2	265 14 6	258 14 4	....	2,975 13 9
c. Rents, Rates and Taxes	480 0 0	255 8 0	267 3 10	276 0 0	102 0 0	24 0 0	284 12 0	8 5 7	59 8 0	100 0 0	384 6 0	198 10 10	....	2,440 6 3
d. Pay of Police Guards	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Official Postage	458 11 0	540 12 0	787 6 6	722 2 0	896 3 6	315 12 0	795 15 6	755 2 0	282 7 0	184 6 0	656 12 6	731 8 6	....	7,127 2 6
f. Sundries	366 3 4	829 7 11	868 14 1	423 1 3	479 15 3	163 0 9	36 0 10	743 11 6	136 6 0	593 9 10	565 13 4	1,256 2 9	....	6,472 6 10
Payments to Officers of other Provinces	2,262 14 6	....	....	....	....	....	....	....	....	....	....	....	....	2,262 14 6
Total, B. Establishments	33,157 3 4	42,573 3 4	36,797 1 10	40,872 10 6	56,199 6 0	25,694 11 1	57,164 1 6	48,415 3 11	23,081 15 1	25,597 4 11	46,657 13 0	50,504 2 11	....	4,85,575 12 5
Grand Total of Expenditure	34,157 11 7	54,381 3 4	53,090 2 1	57,954 15 8	85,679 9 10	29,375 3 8	83,040 13 6	77,108 9 3	27,604 0 3	47,671 12 7	64,497 1 4	94,745 6 11	18,105 9 9	7,27,412 3 9

Bombay, 13th August 1889.

A. F. COX,
Acting Accountant General.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account Current for the year 1888-89.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance		769 2 9	By 1. Refunds and Drawbacks	.....	4,577 9 0
,, VIII.—Assessed Taxes—Income Tax—			,, 11. Forests	.....	7,27,412 3 9
Deductions by Government from Salaries and Pensions.	.....	4,177 15 8	,, Revenue Deposits	.....	27,688 13 9
,, XXIII.—Stationery and Printing—			,, Cheques and Bills (Departmental Cheques)—		
Other Press Receipts—			Forest Cheques (cancelled)	.....	2,662 11 11
Government Central Press...	.....	23 6 9	,, Advances Recoverable—		
,, XXXII.—Civil Works in charge Civil Officers—			Forest Advances	4,40,834 5 3	
Road-side Trees Receipts	.....	217 12 0	Objection Book Advances	2,508 10 8	
Revenue Deposits	.....	42,326 15 3	Tentage Advances	0 0 5	
Cheques and Bills—					4,43,343 0 4
(Departmental Cheques)—			,, Forest Remittances—		
Forest Cheques drawn	.....	7,39,111 14 8	Remittances to Treasuries	12,04,390 11 8	
,, Advances Recoverable—			Inter-Divisional Transfers	43,316 10 8	
Forest Advances	4,38,887 0 4		Inter-Departmental Transfers	2,670 7 4	
Objection Book Advances	2,069 0 0				12,50,377 13 8
Tentage Advances	.....		,, Cash Recoveries	.....	15,027 13 10
		4,40,956 0 4	,, Accounts Current—		
Cash Recoveries	.....	15,027 13 10	Account between Bombay and Public Works Department, Bombay (Ordinary)—		
,, Forest Remittances—			IV.—Items adjustable by Public Works Department —		
Remittances to Treasuries...	1,716 0 11		Inter-Departmental Charges...	.....	793 0 8
Inter-Divisional Transfers...	33,582 6 9		,, Account between Bombay and Military—Bombay—		
Inter-Departmental Transfers	14,728 15 10		IV.—Items adjustable by Military—		
		50,027 7 6	Miscellaneous	.....	17 0 0
,, IX.—Forest	.....	11,60,768 8 5	,, Account between India and Bombay—		
,, XXI.—Interest—			IV.—Items adjustable by India—		
Interest on Arrears of Revenue	.....	8 2 3	Topographical Survey	.....	2,372 6 6
,, Bombay Uncovenanted Service Family Pension Fund—			,, Account between Bombay and Public Works Department (Ordinary)—		
Widows' Branch	.....	769 14 4	IV.—Items adjustable by Public Works Department—		
,, Accounts Current—			Payments for land compensation	.....	8 8 0
Account between Bombay and Public Works Department—					
Payments into Treasury by Civil Officers on account of Public Works Department	.....	510 13 1			
,, Account between India and Bombay—					
III.—Items adjustable by India—					
Topographical Survey	.....	21,708 11 6			
,, Account between India and Bombay—					
III.—Items adjustable by India—					
Bengal Military Fund	.....	316 5 2			
Do. do Orphan Fund	.....	20 0 0			
			By Closing Balance ..	.....	2,459 14 1
GRAND TOTAL Rs. ..	.....	24,76,740 15 6	GRAND TOTAL Rs....	.....	24,76,740 15 6

No. $\frac{F}{14794}$

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
12th August 1889.

A. F. COX,
Acting Accountant General.

FORM No. 60.

FORM NO. 60.

Forest Department, Bombay, Northern Circle.

Revenue received and Outstandings on account of Revenue during 1888-89.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
North Thána ...	*I.—Timber and other produce removed from the Forests by Government agency—*						
	a. Timber	.....	14,771 6 2	14,771 6 2	14,771 6 2	.....	
	b. Firewood and charcoal	.....	9,183 7 0	9,183 7 0	9,183 7 0	.....	
	c. Bámbus	.....	1 4 0	1 4 0	1 4 0	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	1,789 1 6	1,789 1 6	1,789 1 6	.....	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	.....	1,54,992 13 9	1,54,992 13 9	1,53,391 13 9	1,601 0 0	
	b. Firewood and charcoal	.....	8,635 13 7	8,635 13 7	8,635 13 7	.....	
	c. Bámbus	.....	11,892 12 5	11,892 12 5	11,892 12 5	.....	
	d. Grazing and fodder grass ...	.....	13,316 3 0	13,316 3 0	13,316 3 0	.....	
	e. Other minor produce	.....	4,698 7 6	4,698 7 6	4,665 15 6	32 8 0	
	III.—Confiscated, drift, and waif wood ...	.....	1,643 10 7	1,643 10 7	1,643 10 7	.....	
	Total ...	.....	2,20,924 15 6	2,20,924 15 6	2,19,291 7 6	1,633 8 0	
South Thána ...	*I.—Timber and other produce removed from the Forests by Government agency—*						
	a. Timber	.....	7,665 1 0	7,665 1 0	7,665 1 0	.....	
	b. Firewood and charcoal	.....	2,546 7 6	2,546 7 6	2,546 7 6	.....	
	c. Bámbus	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	5,088 15 1	5,088 15 1	4,319 11 1	769 4 0	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	77,066 9 0	1,25,158 12 8	2,02,225 5 8	1,67,316 2 8	34,909 3 0	
	b. Firewood and charcoal	.....	1,198 6 11	1,198 6 11	1,198 6 11	.....	
	c. Bámbus	.....	3,543 6 9	3,543 6 9	3,543 6 9	.....	

	d. Grazing and fodder grass ...	0	12	0	7,298	6	8	7,299	2	8	7,299	2	8	.....
	e. Other minor produce	.....			2,375	9	6	2,375	9	6	2,375	9	6	.....
	III.—Confiscated, drift, and waif wood ...	.....			1,646	12	2	1,646	12	2	1,646	12	2	.....
	Total ...	77,067	5	0	1,56,521	14	3	2,33,589	3	3	1,97,910	12	3	35,678	7	0
East Khándesh.	*I.—Timber and other produce removed from the Forests by Government agency—*															
	a. Timber	.....			7,721	15	10	7,721	15	10	7,721	15	10	.....		
	b. Firewood and charcoal	.....			10,101	2	0	10,101	2	0	10,101	2	0	.....		
	c. Bamboos	.....			.....			.....			.....			.....		
	d. Sandalwood	.....			.....			.....			.....			.....		
	e. Grass and other minor produce ...	.....			.....			.....			.....			.....		
	II.—Timber and other produce removed from the Forests by consumers and purchasers—															
	a. Timber	.....			3,771	7	3	3,771	7	3	3,771	7	3	.....		
	b. Firewood and charcoal	.....			7,220	13	6	7,220	13	6	7,220	13	6	.....		
	c. Bamboos	.....			3,718	9	6	3,718	9	6	3,718	9	6	.....		
	d. Grazing and fodder grass ...	51	1	0	46,334	10	6	46,385	11	6	46,371	14	6	13	13	0
	e. Other minor produce	.....			542	7	0	542	7	0	542	7	0	.....		
	III.—Confiscated, drift, and waif wood ...	.....			150	2	9	150	2	9	150	2	9	.....		
	Total ...	51	1	0	79,561	4	4	79,612	5	4	79,598	8	4	13	13	0
West Khándesh.	*I.—Timber and other produce removed from the Forests by Government agency—*															
	a. Timber	.....			20,239	7	9	20,239	7	9	20,239	7	9	.....		
	b. Firewood and charcoal	.....			2,599	9	0	2,599	9	0	2,599	9	0	.....		
	c. Bamboos	.....			.....			.....			.....			.....		
	d. Sandalwood	.....			.....			.....			.....			.....		
	e. Grass and other minor produce ...	.....			7	0	0	7	0	0	7	0	0	.....		
	II.—Timber and other produce removed from the Forests by consumers and purchasers—															
	a. Timber	.....			14,395	4	9	14,395	4	9	14,395	4	9	.....		
	b. Firewood and charcoal	.....			3,880	3	0	3,880	3	0	3,880	3	0	.....		
	c. Bamboos	.....			2,562	7	4	2,562	7	4	2,562	7	4	.....		
	d. Grazing and fodder grass ...	64	4	0	54,841	10	10	54,905	14	10	54,870	1	10	35	13	0
	e. Other minor produce	.....			9,300	2	0	9,300	2	0	9,300	2	0	.....		
	III.—Confiscated, drift, and waif wood ...	.....			666	11	4	666	11	4	666	11	4	.....		
	Total ...	64	4	0	1,08,492	8	0	1,08,556	12	0	1,08,520	15	0	35	13	0

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Násik	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	4,142 9 1	27,513 15 11	31,656 9 0	29,356 2 6	2,300 6 6	
	b. Firewood and charcoal	4 8 0	2,913 3 0	2,917 11 0	2,917 11 0	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	0 1 0	0 1 0	0 1 0	.....	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	.....	9,192 14 6	9,192 14 6	9,192 14 6	.....	
	b. Firewood and charcoal	17 8 0	1,485 15 7	1,503 7 7	1,490 1 7	13 6 0	
	c. Bamboos	.....	4,004 3 9	4,004 3 9	4,004 3 9	.....	
	d. Grazing and fodder grass ...	1,004 0 10	42,741 3 11	43,745 4 9	43,292 12 9	452 8 0	
	e. Other minor produce	.....	1,726 7 2	1,726 7 2	1,726 7 2	.....	
	III.—Confiscated, drift, and waif wood ...	3 4 3	110 2 2	113 6 5	110 2 2	3 4 3	
	Total ...	5,171 14 2	89,688 3 0	94,860 1 2	92,090 8 5	2,769 8 9	
Ahmednagar ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	7,364 13 8	7,364 13 8	7,336 0 11	28 12 9	
	b. Firewood and charcoal	.....	1,294 3 9	1,294 3 9	1,294 3 9	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	2,056 8 10	2,056 8 10	2,056 8 10	.....	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	.....	217 0 2	217 0 2	217 0 2	.....	
	b. Firewood and charcoal	.....	641 4 2	641 4 2	641 4 2	.....	
	c. Bamboos	.....	342 5 1	342 5 1	342 5 1	.....	
	d. Grazing and fodder grass ...	.....	40,864 6 4	40,864 6 4	40,864 6 4	.....	
	e. Other minor produce	.....	1,416 13 1	1,416 13 1	1,416 13 1	.....	
	III.—Confiscated, drift, and waif wood ...	.....	93 14 11	93 14 11	93 14 11	.....	
	Total ...	.....	54,291 6 0	54,291 6 0	54,262 9 3	28 12 9	

Poona	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	27,698 10 0	27,698 10 0	27,698 10 0	.....
	b. Firewood and charcoal	.....	10,939 12 0	10,939 12 0	10,939 12 0	.....
	c. Bamboos	.....	.....	.....	.....	.....
	d. Sandalwood...	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	3,538 7 10	3,538 7 10	3,538 7 10	.....
	II.—Timber and other produce removed from the Forests by consumers and purchasers—					
	a. Timber	.....	129 10 9	129 10 9	129 10 9	.....
	b. Firewood and charcoal	.....	1,673 1 6	1,673 1 6	1,673 1 6	.....
	c. Bamboos	.....	1,752 14 6	1,752 14 6	1,752 14 6	.....
	d. Grazing and fodder grass ...	.....	52,354 9 0	52,354 9 0	52,354 9 0	.....
	e. Other minor produce	.....	2,913 3 6	2,913 3 6	2,913 3 6	.....
	III.—Confiscated, drift, and waif wood ...	.....	169 3 2	169 3 2	169 3 2	.....
	Total ...	.....	1,01,169 8 3	1,01,169 8 3	1,01,169 8 3	.....
Sátára	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	16,491 3 8	16,491 3 8	16,491 3 8	.....
	b. Firewood and charcoal	.....	4,000 11 9	4,000 11 9	4,000 11 9	.....
	c. Bamboos	.....	6 1 4	6 1 4	6 1 4	.....
	d. Sandalwood...	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	15,315 8 0	15,315 8 0	15,315 8 0	.....
	II.—Timber and other produce removed from the Forests by consumers and purchasers—					
	a. Timber	.....	4,051 15 0	4,051 15 0	4,051 15 0	.....
	b. Firewood and charcoal	.....	413 11 9	413 11 9	413 11 9	.....
	c. Bamboos	.....	282 2 1	282 2 1	282 2 1	.....
	d. Grazing and fodder grass ...	.....	40,499 12 6	40,499 12 6	40,499 12 6	.....
	e. Other minor produce	.....	4,126 12 0	4,126 12 0	4,043 12 0	83 0 0
	III.—Confiscated, drift, and waif wood ...	.....	117 4 9	117 4 9	117 4 9	.....
	Total ...	.....	85,305 2 10	85,305 2 10	85,222 2 10	83 0 0

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sholápur ...	*I.—Timber and other produce removed from the Forests by Government agency—*						
	a. Timber	.....	173 4 0	173 4 0	173 4 0	.....	
	b. Firewood and charcoal	.....	1,134 0 6	1,134 0 6	1,134 0 6	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	16 2 6	16 2 6	16 2 6	.....	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	.....	290 2 3	290 2 3	290 2 3	.....	
	b. Firewood and charcoal	.....	51 10 9	51 10 9	51 10 9	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Grazing and fodder grass ...	.....	21,828 10 4	21,828 10 4	21,768 10 4	60 0 0	
	e. Other minor produce	.....	529 10 0	529 10 0	529 10 0	.....	
	III.—Confiscated, drift, and waif wood ...	.....	20 6 6	20 6 6	20 6 6	.....	
	Total ...	.....	24,043 14 10	24,043 14 10	23,983 14 10	60 0 0	
Surat	*I.—Timber and other produce removed from the Forests by Government agency—*						
	a. Timber	.....	43,844 1 1	43,844 1 1	41,889 5 4	1,954 11 9	
	b. Firewood and charcoal	.....	302 8 10	302 8 10	302 8 10	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	.....	.....	.....	.....	
	II.—Timber and other produce removed from the Forests by consumers and purchasers—						
	a. Timber	1,845 0 0	33,899 7 9	35,744 7 9	35,744 7 9	.....	
	b. Firewood and charcoal	.....	1,523 13 2	1,523 13 2	1,523 13 2	.....	
	c. Bamboos	.....	12,237 0 5	12,237 0 5	12,237 0 5	.....	
	d. Grazing and fodder grass ...	.....	794 11 0	794 11 0	794 11 0	.....	
	e. Other minor produce	.....	6,349 5 7	6,349 5 7	6,349 5 7	.....	
	III.—Confiscated, drift, and waif wood ...	609 13 3	247 0 2	856 13 5	247 0 2	609 13 3	
	Total ...	2,454 13 3	99,198 0 0	1,01,652 13 3	99,088 4 3	2,564 9 0	

Panch Mahals...	*I.—Timber and other produce removed from the Forests by Government agency—*					
	a. Timber	.....	1,038 14 0	1,038 14 0	1,038 14 0	.....
	b. Firewood and charcoal	.....	739 2 0	739 2 0	739 2 0	.....
	c. Bámbus	.....	.....	.....	.....	.....
	d. Sandalwood...	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	37 8 0	37 8 0	37 8 0	.....
	II.—Timber and other produce removed from the Forests by consumers and purchasers—					
	a. Timber	.....	33,927 2 2	33,927 2 2	33,927 2 2	.....
	b. Firewood and charcoal	.....	932 1 0	932 1 0	932 1 0	.....
	c. Bámbus	.....	2,026 5 9	2,026 5 9	2,026 5 9	.....
	d. Grazing and fodder grass ...	.....	5,732 9 6	5,732 9 6	5,732 9 6	.....
	e. Other minor produce	15 9 6	2,191 9 8	2,207 3 2	2,196 10 2	10 9 0
	III.—Confiscated, drift, and waif wood ...	.....	46 8 9	46 8 9	46 8 9	.....
	Total ...	15 9 6	46,671 12 10	46,687 6 4	46,676 13 4	10 9 0
Total, Northern Circle ...	*I.—Timber and other produce removed from the Forests by Government agency—*					
	a. Timber	4,142 9 1	1,74,522 13 1	1,78,665 6 2	1,74,381 7 2	4,283 15 0
	b. Firewood and charcoal	4 8 0	45,754 3 4	45,758 11 4	45,758 11 4	.....
	c. Bámbus	.....	7 5 4	7 5 4	7 5 4	.....
	d. Sandalwood...	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	27,849 4 9	27,849 4 9	27,080 0 9	769 4 0
	II.—Timber and other produce removed from the Forests by consumers and purchasers—					
	a. Timber	78,911 9 0	3,80,026 11 0	4,58,938 4 0	4,22,428 1 0	36,510 3 0
	b. Firewood and charcoal	17 8 0	27,656 14 11	27,674 6 11	27,661 0 11	13 6 0
	c. Bámbus	.....	42,362 3 7	42,362 3 7	42,362 3 7	.....
	d. Grazing and fodder grass ...	1,120 1 10	3,26,606 13 7	3,27,726 15 5	3,27,164 13 5	562 2 0
	e. Other minor produce	15 9 6	36,170 7 0	36,186 0 6	36,059 15 6	126 1 0
	III.—Confiscated, drift, and waif wood ...	613 1 6	4,911 13 3	5,524 14 9	4,911 13 3	613 1 6
	Grand Total ...	84,824 14 11	10,65,868 9 10	1,150,693 8 9	11,07,815 8 3	42,878 0 6

Dated Poona, 31st October 1889.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

623—22 N.C.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1888-89.

Divisions.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.		REMARKS.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Contractors.									
Násik	...	12 0 0	12 0 0	.....	12 0 0	12 0 0	.....	...	
Total Contractors ...	...	12 0 0	12 0 0	.....	12 0 0	12 0 0	.....	...	
Disbursers.									
Ahmednagar	...	36,772 4 10	36,772 4 10	.....	36,772 4 10	36,772 4 10	.....	..	
Khándesh, East	...	41,726 5 9	41,726 5 9	.....	41,726 5 9	41,726 5 9	.....	...	
Do. West ...	...	40,656 10 1	40,656 10 1	.....	40,659 3 8	40,659 3 8	14 1 7	11 8 0	
Násik	...	46,023 9 4	46,023 9 4	.....	46,520 9 9	46,520 9 9	497 0 5	...	
Panch Mahál	...	18,619 3 10	18,619 3 10	.....	18,619 3 10	18,619 3 10	.....	...	
Poona	...	52,475 1 9	52,475 1 9	.....	52,475 1 9	52,475 1 9	.....	...	
Sátára	...	43,914 12 1	43,914 12 1	4 9 4	43,960 5 9	43,964 15 1	50 3 0	...	
Sholápur	...	17,722 4 10	17,722 4 10	.....	17,724 8 11	17,724 8 11	2 4 1	...	
Surat	...	20,444 8 0	20,444 8 0	.....	20,944 8 0	20,944 8 0	500 0 0	...	
North Thána	...	52,139 12 0	52,139 12 0	.....	52,143 12 0	52,143 12 0	4 0 0	...	
South Thána	0 0 6	62,465 5 6	62,465 6 0	1 4 0	62,919 2 8	62,920 6 8	455 4 8	0 4 0	
Working Plans	...	2,764 2 6	2,764 2 6	.....	2,764 2 6	2,764 2 6	.....	...	
Bombay Forest Surveys ...	...	3,150 15 10	3,150 15 10	.....	3,592 15 10	3,592 15 10	442 0 0	...	
Total Disbursers ...	0 0 6	4,38,875 0 4	4,38,875 0 10	5 13 4	4,40,822 5 3	4,40,828 2 7	1,964 13 9	11 12 0	
Grand Total ...	0 0 6	4,38,887 0 4	4,38,887 0 10	5 13 4	4,40,834 5 3	4,40,840 2 7	1,964 13 9	11 12 0	

No. $\frac{F}{14795}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
12th August 1889.

A. F. COX,
Acting Accountant General.

FORM No. 62.

Forest Department, Bombay, Northern Circle.

Financial Results of the year 1888-89.

Division.	Timber and other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection, and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
North Thána ...	25,745	8,763	2,00,186	7,466	64,158	2,25,931	80,387	
South Thána ...	14,531	6,400	1,89,976	4,670	96,826	2,04,507	1,07,896	
East Khándesh ...	17,823	4,554	75,806	5,847	45,422	93,629	55,823	
West Khándesh ...	22,846	6,347	1,05,326	6,712	48,094	1,28,172	62,053	
Násik	32,274	3,707	61,106	2,585	82,120	93,380	88,412	
Ahmednagar ...	10,687	4,455	44,459	1,472	49,820	55,146	55,747	
Poona	42,177	8,313	59,732	3,635	73,825	1,01,909	85,773	
Sátára	35,813	12,843	49,543	5,361	61,637	85,356	79,841	
Sholápur	1,323	618	23,324	455	27,897	24,647	28,970	
Surat	42,192	11,026	57,616	10,373	29,004	99,808	50,403	
Panch Maháls ...	1,816	2,009	46,463	1,440	28,658	48,284	32,107	
Total ...	2,47,227	69,035	9,13,542	50,016	6,08,361	11,60,769	7,27,412	

A. T. SHUTTLEWORTH,
Conservator of Forests, Nothern Circle.

Dated Poona, 31st October 1889.

No. 17 of 1890.

Revenue Department.

Ahmedabad Districts,
Camp Páldi, 5th January 1890.

Submitted to Government.

2. The Conservator has, in paragraphs 1 to 19, concisely summarized the chief features of the report, and the Commissioner, N. D., will now record a few remarks on such portions of Mr. Shuttleworth's able and interesting report as relate to the four forest charges pertaining to the Northern Division, *viz.*, North Thána, South Thána, Surat and the Panch Mahál, as also upon any points of *general* interest noted by the Conservator.

Chapter I.

3. Paragraph 26.—Proposals for the settlement of rights in certain lands in the Modása Petha were submitted to Government under this office No. 3626, dated 18th November 1889. The question of the transfer of these forests to the control of the Forest Department has been deferred until the orders in paragraph 3 of Government Resolution No. 4832 of 6th July 1889 have been carried out, as it will then be probably found possible for the officer in charge of the Gujarát forests to take charge of the Modása Petha.

4. Paragraphs 30, 40 to 43.—The actual progress made in the demarcation of forests by Mr. Owen in the Thána District is not stated, but Mr. Shuttleworth seems satisfied with the amount of work done. It is satisfactory to note that the demarcation of the Panch Mahál forests has been completed. The Conservator appears to consider that the classification of a large proportion of the forest area in Godhra as "Protected" tends to create a feeling of uncertainty, and he also deplores that the forests in the remaining tálukás of the district should have been allowed to continue as protected, but apparently the decision was arrived at after due consideration. Mr. Propert cannot, as yet, form any conclusive opinion on the subject, but hopes to be able to do so after visiting the Panch Mahál.

5. Paragraphs 47 and 48.—Good progress has been made in the erection of boundary-marks in Thána and the Panch Mahál. The completion of these "visible signs" of forest conservation is a matter of great importance; it is clear, however, that a considerable period must elapse before completion is effected.

6. Paragraphs 49 and 57.—It is not clear what progress has been made in settlement enquiries, but the work has been commenced in Máhím and Dáhánu, and it has been completed during the year in Váda. As regards the settlement of old forest areas gazetted under Section 34 of the Forest Act in March 1879, the progress in the Panch Mahál is satisfactory, but nothing appears to have been done in Thána or Surat. The attention of the Collector of Surat has been drawn to the concluding portion of paragraph 8 of the Government Resolution reviewing the last Forest Administration Reports, and he has been requested to state whether any arrangements have been made to proceed with the work during the current season.

7. Paragraphs 61 and 62.—The "destructive privileges" to which the Conservator alludes as having been conceded in the Dohad and Jhálod Tálukás of the Panch Mahál were found by the Forest Settlement Officer to be necessary, and they were granted by Government after full consideration. Mr. Shuttleworth's remarks in paragraph 62 should not therefore have found a place in this report. Such privileges have been found necessary elsewhere, and must be continued, unless it be desired to make forest conservancy a curse to the people.

Chapter II.

8. The Commissioner, N. D., has no desire to raise unnecessary objections to the forest survey scheme, and, as it has been sanctioned by Government, Mr. Propert refrains from minuting upon it in a detailed manner. He cannot however help feeling that the work will be very lengthy, and awfully costly, while the labour bestowed upon many of our Bombay forests will scarcely prove remunerative. The Commissioner, N. D., moreover, cannot understand, except in the case of a few specially valuable tracts, the necessity for surveys on such an enormous scale, and he believes that the contents of most of the ordinary forest areas could be easily treated and disposed of by personal examination, assisted by the ordinary topographical maps. Surely the coupes in the Thána Collectorate and elsewhere might be shown with sufficient accuracy by means of rough hand-made maps prepared by ordinary native surveyors on small salaries attached to the various District Forest Offices.

9. The preparation of working plans appears a very heavy piece of work and likely to extend over a very considerable period, considering the strength of the establishment employed upon it.

Chapter III.

10. Paragraphs 85 and 86.—It is quite certain that the subordinate staff of the Forest Department, at any rate in some districts, needs strengthening, but as the requirements of each district have been duly considered by the Committee appointed to report on the subject in Government Resolution No. 4832, dated 6th July last, it is needless to record any remarks on the subject now. The report of the Committee will, the Commissioner, N. D., hopes, be in the hands of Government before the end of the current month.

11. Paragraph 89.—Except in the Surat Division, there was an increase in the number of prosecutions instituted during the year, which the Conservator ascribes to increased vigilance on the part of the protective staff. The results were not satisfactory in North Thána, where nearly 50 per cent. of the prosecutions were unsuccessful. In South Thána, Panch Mahâls and particularly in Surat, the result was better.

12. Paragraphs 104 to 114.—A much smaller area was traversed by fire in the Thána and Panch Mahâls Districts, but in Surat, there appears a sudden increase from 27,029 acres in 1887-88 to 298,531 in 1888-89, which the Conservator states (paragraph 110) is due to the portion of the Dáng Forests fired during 1887-88 not having been reported correctly in last year's returns. Mr. Shuttleworth acknowledges the assistance of the villagers in helping to put out fires, and their interest might be stimulated a good deal by a judicious system of rewards. It is curious to note how strongly Forest officers of the present day object to "Forest fires". The Commissioner, N. D., thinks that certain authors writing within the past 25 or 30 years have stated that the occasional burning of the undergrowth in forests exercises a beneficial influence on the trees therein.

13. Paragraphs 115 and 117.—The grazing receipts realized during the year show an increase of Rs. 78,310 as compared with the past year, and are almost eight times as much as the receipts of 1878-79. The increase principally occurs in certain Deccan districts owing to forest areas being thrown open in consequence of scarcity of fodder. In this division North Thána contributed Rs. 2,346 to the increase, South Thána Rs. 3,846 and the Panch Mahâls Rs. 412, while in Surat there was a decrease of Rs. 130.

14. Paragraphs 123, 124, 125, 126.—It is natural that the Conservator should inveigh against the grant of thorns for the hedging of fields, but the matter is a difficult one, and Government cannot afford to ignore all measures for the protection of the rayats' crops from the ravages of cattle.

15. Paragraphs 127, 130, 131.—It is to be regretted that despite all precautions, the seedlings in a portion of the South Thána Division were destroyed by fire. At the same time it would seem that too small an amount out of forest revenue is devoted to artificial reproduction in the Presidency. There is, no doubt,

much force in the remarks of the Conservator at the close of paragraph 131 on the subject of natural reproduction in the Konkan and Gujarát. A somewhat larger expenditure, however, on artificial reproduction elsewhere seems to Mr. Propert desirable.

Chapter IV.

16. Paragraphs 149 to 155, 170, 171.—The receipts from departmental fellings were appreciably less than in the previous year in all the forest charges in this division except Surat, the decrease in North Thána being Rs. 10,481-3-3, in South Thána Rs. 18,283-12-0, and in the Panch Mahál Rs. 2,823-6-0; while, on the other hand, in Surat there was an increase of Rs. 23,205-11-2, a portion of which, however, includes the sale-proceeds of a large number of rafters of the previous year. The falling off has been satisfactorily explained by the Conservator, and in the circumstances stated in paragraph 151 the Commissioner, N. D., concurs with Mr. Shuttleworth that the intervention of the Forest Department in the matter of the retail wood trade is no longer necessary.

17. Paragraphs 186 to 192.—The receipts from timber and other produce removed from the forests by consumers or purchasers show considerable development, especially in the North and South Thána ranges. The Conservator expresses a hope (paragraph 188) that the permit system for supplying the wants of the local population may be abandoned, as people can obtain their supplies from the contractors' fellings; the realizations, however, from permit fees do not show any appreciable diminution, and the Commissioner, N. D., would not be in a hurry to put an end to the system.

18. Paragraph 199.—The free grants of timber made in this division were very small indeed, but compare favourably with the previous years (1886-87 and 1887-88). It would seem, however, that the grants referred to in paragraph 172 have not been included in the table in this paragraph.

Chapter V.

19. Paragraphs 202, 203, 204, 205.—The gross revenue is the highest yet reached, and exceeds that of the past year by Rs. 1,92,144, which is very satisfactory. The districts of Thana and Surat contribute Rs. 1,14,098-12-11 to this increase, while in the Panch Mahál, for the reasons explained in paragraph 205, there has been an actual decrease of Rs. 8,777-2-8. The expenditure of the year, however, exceeded that of the preceding year by Rs. 4,276-11-11, and the net revenue therefore shows an increase of Rs. 1,87,866 over last year.

20. Paragraph 207.—Rs. 2,41,836-7-4 were expended under "A—Conservancy and Works" as against Rs. 2,26,095-14-1 in the previous year, which shows an increase of Rs. 15,740-9-3. The principal and only increase in this Division was in South Thána (Rs. 13,651-6-1), while in North Thána, Surat and Panch Mahál there was an aggregate decrease of Rs. 10,371-10-8.

21. Paragraph 211.—The Commissioner, N. D., sees no real advantage likely to be derived from Mr. Shuttleworth's proposal to withdraw certain kuraus from the Military Department. The gain, if any, would represent a mere book entry, and Mr. Propert thinks that for the use of the army Government acts rightly in handing over its own property in the shape of grass at the lowest possible cost.

Chapter VI.

22. *General Remarks.*—Regarding these, the Commissioner, N. D., has only to state that Mr. Shuttleworth and the officers associated with him have, as usual, worked energetically to further the interest of the Forest Department.

W. H. PROPERT,
Commissioner, N. D.

No. $\frac{R.}{445}$ OF 1890.

REVENUE DEPARTMENT.

From

J. G. MOORE, ESQUIRE,
Commissioner, C. D.;

To

THE CHIEF SECRETARY TO GOVERNMENT.

Sholápur Districts,
Camp Karmála, $\frac{27}{29}$th January 1890.

SIR,

I have the honor to submit, with my remarks, the Forest Administration Report of the Northern Circle, for the year 1888-89, received from the Conservator, with his letter, No. 4188, dated the 6th ultimo.

2. Having been living in this Division continuously for the last 17 years, I am in a position to support the Conservator, when he writes of the beneficial change that has come over the mountain and hill ranges under forest protection. I know hill-sides which were comparatively bare and are now covered with fine growth. Take the hills on the south of the railway between Selarvádi and Talegaon Dhamdhera; take the Kátraj and Khamatki Ghátś; take the two sisters; take the western slopes of the Syhádri range where land has been rescued from a very low order of cultivation, and acquired for forest, and the line of forest reserve is defined as clearly as if it had been drawn down the side of the hills with a pencil, nice healthy vegetation on one side and bare land on the other side of the line. I could mention numerous other instances, but I will only quote one more, and that is the low hills between Bhusával and Jámner in the Khándesh District. I revisited this part of the country in February 1889, after a lapse of 15 years, and I was immensely struck by the wonderful growth, which covered what were comparatively bare stony hills. All this cannot be otherwise than beneficial to the country and its people, who are already beginning to appreciate the advantages, resulting from forest conservancy.

Para 2.

3. The net gain to the reserved forests, deducting areas disforested, was 235 square miles and 83 acres. The largest accession to the reserved forest was in the district of Násik, being 170 square miles and 480 acres. It appears, however, from para. 23 of the report, that of this area, 82 square miles and 536 acres merely represent a book adjustment.

Paras. 22 and 23.

4. Khándesh and Násik are the only two districts, in the Central Division, in which forest demarcation has not yet been completed. In one (1) táluka in Násik and in four (4) tálukas in Khándesh, the work remains to be completed and in two (2) tálukas of the latter district, the work has not yet been commenced.

Para. 27.

5. Of lands notified, under Section 4 of the Forest Act, but not finally notified under Section 19, the largest area (*viz.* 198 square miles and 463 acres) is shown against the Khándesh District, the area of similar lands in the other districts of this Division being comparatively small. There is a Special Forest Settlement Officer working in the Khándesh District, who will be able to get through the work in a year or two. It will be seen from para. 32 of the report that, in spite of the disadvantages, arising from an unfavourable climate, and the vast areas to be traversed, which retard the progress of demarcation and settlement work in Khándesh, Mr. Dodgson's record of work is highly creditable to that officer. Mr. Dodgson's report on the demarcation of the Akráni Toranmál reserve, was submitted to Government, with my Memorandum, No. 189, dated the 14th instant.

Paras. 29 and 32.

6. The only táluka, in Násik, of which the demarcation work still remains to be completed, is Dindori. The information, submitted by the Collector of Násik, was incomplete and unsatisfactory, and although I returned the papers, for revision, in the month of July 1889, I have heard nothing more about them up to date. In Ahmednagar, 759 acres and 33 gunthás of occupied lands were acquired for forest, at a cost of Rs. 2,606-12-10. In Poona, the total area of occupied lands, acquired by purchase and exchange, was 655 acres. In the District of Sátara, 132 acres and 1 guntha of occupied lands were purchased at a cost of Rs. 376-7-0, and in Sholápur, no acquisition was made.

Paras. 33 to 39.

7. I agree with Mr. Shuttleworth that the area, taken up for forest, in the Bhore State, under the scheme, proposed by Mr. Sitárám Dámodar, is insufficient. But it is not possible to propose any modifications until the Revenue Survey, which is now in progress in that State, has been completed.

Para. 44.

8. It is satisfactory to note that considerable progress was made, during the year, in erecting cairns to define forest boundaries. Násik District takes the lead in the number (11,412) of cairns, large and small, erected, the cost being Rs. 3,554-3-2, while the smallest number (614) erected was in Ahmednagar, at a cost of Rs. 271-2-6. The definition of forest boundaries, by clear and unmistakeable marks, is of the utmost importance, both in the interests of the "rayats" and the Forest Department, but it is a matter of money, and I have no doubt that the work will be pushed forward, as quickly, as the funds, at the disposal of the Conservator, will permit.

Paras. 47 and 48.

9. The statement, embodied in this para., shows that in the Násik and Poona Districts of the Central Division, there are 84 and 192 square miles, respectively, of areas of old forest, notified under Section 34 of the Forest Act, in which private rights have not been enquired into, settled and recorded. No progress was, however, made in the matter of settling and recording these rights. This is much to be regretted.

Para. 57.

10. I fully agree with Mr. Shuttleworth in the general remarks, which he has recorded in para. 62, from his own standpoint; but Government has, it should be remembered, to consider the welfare of the population at large, including wild tribes, as well as the necessity for forest conservancy, and it would be injudicious, with a stroke of the pen, to introduce a rigorous code of forest rules, as such a proceeding would be likely to cause serious hardship and discontent. I trust, however, that the code of privileges for the Khándesh District, in its modified form, will give, to the Forest Department, all that they can fairly expect, at present, in the restriction of privileges, and that, as time rolls on, and the necessity for forest conservancy is better understood, the privileges will be gradually withdrawn, as there is no doubt that they retard conservancy.

Paras. 60 to 62.

11. The institution of the Special Forest Survey Branch is, no doubt, a step in the right direction; the maps, which it will prepare, will greatly facilitate administration, and, for the reasons, given by Mr. Shuttleworth, I agree with him that the 8-inch scale, which is superfluous for Northern or Central India, is a necessity for this part of the country. The operations of the Survey were in progress in Násik, Poona and Sátára of the Central Division, during the year under report.

Paras. 64 to 69.

12. The necessity for strengthening forest establishments has been brought to the notice of Government and I am sure that this important matter will receive due and favourable consideration at their hands. Increased establishment means an increase of revenue, so that any additional expense will soon be covered.

Paras. 85 and 86.

13. From the figures, embodied in para. 89 of the report, it appears that, of the 1,031 prosecutions for forest offences during the year, 699 were instituted in the Central Division, as against 405 during the previous year. The increase in the number of prosecutions is attributed to "increased vigilance on the part of the protective staff" and, doubtless, this is the case. The percentage of failures in prosecutions

Paras. 89 to 92.

during the year, under report, is about the same as during the previous year, in so far as the entire Northern Circle is concerned; but, if the calculation is limited to the figures for the Central Division alone, there was a perceptible improvement in that respect during the year under report. The failures in 1888-89 were 22·8 only, in the Central Division, while in 1887-83, they amounted to 27·4. The improvement is specially noticeable in Poona and Násik.

Para. 93.

14. The table, given in this para., shows that, in so far as this Division is concerned, prosecutions for "injury to forest by fire" was much larger in Khándesh than in any other district. No less than 11 such prosecutions were instituted in Khándesh—a figure which greatly exceeds that for any other district in the *entire Circle*. This speaks well for the vigilance and zeal of the protective establishment in Khándesh and reflects unfavourably on the establishments in North and South Thána, especially, where fires, judging from my own experience, are constantly occurring. The figures, against the Poona District, appearing under the columns "unauthorized felling or appropriation of wood and minor forest produce" and "grazing without permission or in tracts in which grazing is prohibited" also disclose the ease with which offences against the forest law are committed. When the erection of boundary-marks is extended, there will, probably, be a decrease in these offences.

Paras. 96 to 98.

15. The number of cases, compounded under Section 67 of the Forest Act, during the year under report, was perceptibly larger than in the previous year. The increase is marked in every Division of the Northern Circle, except Surat. The total amount, realised in the Circle, on account of the compromises, was Rs. 11,271-14-11. The explanation of the increase, given by the Conservator, is that "the scarcity of fodder for cattle, which was felt during the year, in some of the Deccan districts, induced much trespassing of famishing cattle into plantations and closed forests."

Paras. 99 and 100.

16. The number of cattle, impounded in the Deccan districts, is, as remarked by Mr. Shuttleworth, very large; and it is especially so in Poona and Ahmednagar. It is also to be noticed that the number of sheep and goats, impounded in these two districts, was exceptionally large. The matter, no doubt, calls for serious consideration, especially with regard to goats, whose destructive propensities are well known. I agree with the Conservator in thinking that the rates of grazing fees should be increased for the reasons given by him. It is all very well to say that, instead of raising the fees, it would be better to prosecute the offending parties, but it would be impossible to do so in every case, and the whole time of the present comparatively weak establishment would be occupied in attending magistrates' courts. I think, however, that the work of erecting boundary marks should be pushed on with vigour, so that parties, who might be prosecuted, would not, then, be in a position to say that they did not know their cattle were trespassing. If the owners of cattle, which are found trespassing, were obliged to pay the grazing fees for each head of cattle found trespassing, and if the fees are raised, we should soon find a great decrease in the number of trespasses committed.

Paras. 104 to 114.

17. The statement, embodied in para. 111 of the report, shows that, in the Central Division, the forest area, burnt by fire, during the year under report, was larger in West Khándesh, Násik and Sholápur, and smaller in the other forest divisions, as compared with the previous year. The percentage 18·7 of forest burnt to the entire forest acreage (5,413,910) is in excess of that for last year, which was only 10·8. The causes, which led to this result, in a general and special way, are detailed in paras. 104, 109 and 110 of the report. At the close of para. 104, the Conservator states as follows:—"A complete report, regarding every fire, was drawn up and submitted to the Conservator by the Divisional Forest Officer; and thus the proceedings of all parties, who were responsible for fire conservancy, where fires appeared, came under close inquiry." It would have been well, if the Conservator could have classified the fires, that occurred, under different heads, indicating the causes to which they were traceable, as such

information would have been valuable, in the way of suggesting the particular remedial measures that might be suitable to the peculiar conditions of each case. I think that the sympathy and co-operation of the heads of villages and the rayats generally, ought, considerably, to minimize the mischief that is now caused by forest fires; and an increase, in the numerical strength of the Forest Guards, would tend in that direction also. But a system of rewards should, I think, be tried on a larger and more liberal scale, and this, combined with strong repressive measures, where intentional mischief or culpable negligence is proved, would, probably, lead to a considerable diminution in these extensive and much-to-be-deplored fires, which, annually, do so much mischief. The total expenditure, on account of rewards and wages, during the year under report, amounted to Rs. 1,697, a large proportion of it being expended in the North Thána Division.

Paras. 115 and 116.

18. The revenue, from grazing and fodder grass, has continued to develop steadily during the last ten years; and the receipts, for the year under report (Rs. 3,27,165), show a very marked improvement over those of the previous years. If anything is wanting to show the beneficial results of forest conservancy, the figures, in the statement under para. 115, supply this want. Of course, I am aware that many kurans have been included in forest and that the Department cannot take credit to itself for producing the grass in such lands; but the fact, that, whenever there is a scarcity of fodder, outside forest reserves, a demand is made on the Department to throw open the forests for grazing, proves that conservancy is a grass-producing agency. Our gáiráns, as any officer of experience can state, are not pasture lands, but merely exercise grounds for cattle. As a rule, they produce nothing but spear grass; but even in such lands, with shade, even if it be the shade of bushes and scrub, the spear grass will disappear and good wholesome nutritious grass will take its place; the more we extend our forest area, the more fodder will the cattle get. The ignorant classes may cry out, but, in the end, they will bless the Forest Department.

Paras. 123 to 126.

19. Mr. Shuttleworth's views, regarding the injury to forest growth, by cultivators being allowed to cut thorns, are correct; if there were a luxuriant growth of trees with thorns, there would be no objection to the practice, but when it is a matter of bushes only, and, when we want all the cover and shade, that is available, for the protection of our hill-sides, for the nursing and growth of seedlings, and for the production of good grass, it is quite a different matter, and permission to cut thorns should only be given where a responsible forest officer considers that it can be done without any evil results. The Bill, for the preservation of game and fish, which was brought forward in 1881, was vetoed by the Government of India, but I should be very glad to see the subject reopened in good earnest, and terminated by the passing of a game law.

Paras. 128 to 130.

20. Plantation operations were undertaken in all the districts of the Central Division; but, owing to the scanty rainfall, they were not particularly successful except in the Násik District. Artificial reproduction is uphill work in the Deccan, the results are, from my experience, very discouraging, but, nevertheless, we must persevere, and, if only a few seeds germinate and a few seedlings survive annually, some good will be gained; and, after all, simple broad-casting, carried out by beat-guards, is very inexpensive.

Para. 131.

21. There is a great deal of truth in the Conservator's remarks on my comments on the luxuriant growth of bábul on the slopes of the embankments of the West Deccan Railway, and the suggestion that plots should be excavated, sown and fenced, here and there, over the adjoining bare tracts; at the same time, I should like to see the experiment tried. The secret of the growth of the bábul, on the railway embankments, is that the soil is loose and there is good drainage—but these conditions would exist if, here and there, in the bare tracts, the soil was loosened to a depth of a few feet. I have seen a luxuriant growth of seedlings in heaps of gravel and moorum, stacked, on a road side, for the purposes of road repairs, but not utilised for a year or two.

22. It is satisfactory to note that the experiments with exotic trees, made in the Ahmednagar and Násik Districts, have proved a success so far as they have gone. The experiments, with the date-palm, have not, however, been very hopeful. I do not, however, attach much importance to these experiments with exotic trees in the way of Forestry. I prefer to see the growth of indigenous trees encouraged.

Paras. 134 and 135.

23. Considerable progress was made in the construction of roads in Khándesh, Násik and Poona, which will open out tracts of forests in those districts. The proposed branch railway from Manmád to Surat *viâ* Dhulia, will be as useful to the Forest Department, as it will be to the general trade of the country. The construction of roads, opening up the valleys leading from the Western Ghâts and connecting them with the trunk roads, will prove of incalculable benefit, both to the Forest Department and to the inhabitants of those jungle tracts.

Paras. 136 to 146.

24. The following facts and figures are deducible from the information supplied in these paras. :—

Paras. 156 to 166.

Forest Division.	Teak felling Operations.			Firewood cutting Operations.		
	Receipts.	Cost.	Percentage of Cost to Receipts.	Receipts.	Cost.	Percentage of Cost to Receipts.
	Rs.	Rs.		Rs.	Rs.	
East Khándesh	17,810	3,643	20·4	Not separately given.		
West do.	19,859	3,251	16·3	2,584	1,729	66·8
Násik	30,048	2,738	9·1	Not separately given.		
Poona	27,699	2,935	10·5	10,940	2,430	22·2
Sátára	15,225	1,643	10·7	3,901	1,768	45·3

The operations in the Ahmednagar District were on a small scale and those in Sholápur were next to none.

25. The foregoing figures clearly show that the cost of felling operations, in the case of firewood, is, as compared to receipts, undoubtedly greater than in the case of teak. East Khándesh and Násik, for which the figures are not given separately, should be excluded from consideration; but the figures for the remaining divisions show that the cost, in the case of firewood cuttings, was, in West Khándesh and Sátára, four times as much as in the case of teak cuttings, and that, in the Poona District, it was twice as much. On the other hand, it is remarkable that, in the case of the Násik District, for which separate figures, on account of teak and firewood operations, are not given, and where, therefore, the proportion of "cost to receipts" might be expected to be high, as in East Khándesh, it was 9·1 only—a proportion less than in the case of any of the three divisions for which separate figures are available. This apparent incongruity is, however, explained by the fact that the receipts, on account of the Násik District, include the sale-proceeds of timber cut down last year and the cost of which must, evidently, have been included in the last year's figures (*vide* statement embodied in para. 161).

26. "Hirda" was collected in four districts of the Central Division, *viz.* Násik, Ahmednagar, Poona and Sátára. In Sholápur there is probably no "hirda" to collect; but I cannot understand why none was, apparently, collected in Khándesh, especially as it is not an article which the Bhils are allowed to take free of charge. The receipts, on account of "hirda", have increased, almost cent per cent., during the year under report and the increase is perceptible in every district except Násik where the quantity collected was not sold.

Paras. 179 to 185.

27. The value of the free grants of timber, made during the year under report, was less than in the previous year, in each of the districts of the Central Division, except Poona.

Para. 199.

Most of the grants, in the Poona District, were made to give relief to poor people whose houses had been destroyed by fire: the grants, made in the case of "Majre" Bhilarwádi in táluka Bhimthadi alone, amounted to Rs. 490 (*vide* Government Resolution, No. 6890, dated 16th October 1888).

Paras. 202 to 211.

28. The financial results of the year's forest administration are, no doubt, most satisfactory. The gross revenue of the year under report is the largest on record since 1878-79, and the net revenue shows an increase of Rs. 1,87,866-9-1, in comparison with the previous year. The tendency of the revenue to expand is observable in every Forest Division of the Northern Circle. The causes of increase and decrease in revenue, as well as expenditure, have been explained, in detail, by the Conservator. I do not think that the Military Department will consent to receive their supplies of grass from the open market instead of, as at present, from the excellent forest "kurans", reserved for the Commissariat, but I should be very glad, if it could be arranged.

29. In handing on this report to Government, I have much pleasure to record my sense of the excellent manner in which Mr. Shuttleworth has administered the Circle under his charge. His unremitting zeal, his thorough knowledge of all the details of his department, his wonderful activity and his all-absorbing devotion to duty, are too well known to need any testimony from me.

I have the honor to be,
Sir,
Your most obedient Servant,
J. G. MOORE,
Commissioner, C. D.

SOUTHERN CIRCLE.

No. 3402 A of 1889-90.

From

J. L. L. MacGREGOR, Esquire,
Conservator of Forests, Southern Circle ;

To

The CHIEF SECRETARY to GOVERNMENT,
Revenue Department,
Bombay.

Belgaum, 16th November 1889.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Southern Circle for the year 1888-89, with its subsidiary statements.

~~I have~~ the honour to be,
Sir,
Your most obedient Servant,
J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Through the Commissioner, S. D.

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SOUTHERN CIRCLE.

1888-89.

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CHAPTER I.

AREA AND BOUNDARIES.

During the year 1888-89, 2 square miles 319 acres were added to the reserved forests, and 48 acres and 126 acres were excluded from the 'reserved' and 'protected' forests, respectively.

2. The following table shows the details for each Collectorate of the Circle:—

Number.	Collectorate.	Area on 1st April 1887.				Added during the Year.			
		Reserved.		Protected.		Reserved.		Protected.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	Kánara	683	446	2,864	631	...	...	...	...
2	Belgaum	492	100½	197	43¾	2	319⅕	...	...
3	Dhárwár	171	410⅜	260	259	...	...	...	...
4	Kolába	293	631⅛	88	620¾	...	...	...	...
5	Bijápur	155	75⅜	...	364	...	...	...	...
6	Ratnágiri	20	8⅕	...	...	...	...	...	...
	Total ...	1,816	392⅘	3,411	638¾	2	319⅕	...	...

Number.	Collectorate.	Excluded or transferred to other heads.				Area on 31st March 1889.				Total Forest Area.		Remarks.
		Reserved.		Protected.		Reserved.		Protected.				
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.			
1	Kánara	...	...	...	....	683	446	2,864	631	3,548	437	
2	Belgaum	..	...	...	111⅜	494	419⅞	196	571⅜	691	351⅛	
3	Dhárwár	...	...	...	...	171	410⅜	260	259	432	29⅜	
4	Kolába	...	⅞	...	14⅛	293	630⅝	88	606¼	382	596⅝	
5	Bijápur	...	...	...	...	155	75⅜	...	364	155	439⅜	
6	Ratnágiri	...	47⅞	...	...	19	600⅝	...	...	19	600⅝	
	Total ..	...	48¼	....	126⅝	1,819	223⅜	3,411	512¾	5,230	534⅝	

KA'NARA.

3. No changes occurred in Kánara, but forest-lands, aggregating 7,595 acres 3 gunthás in Sirsi, and 974 acres 7 gunthás in Kumta, were notified under Section 4 of the Forest Act.

4. The Forest-Settlement-Officer sent in reports on 21 villages of Honávar, 16 of Kumta and 46 of Sirsi, aggregating 89,244 acres, and these papers are now before Government.

5. In the Haliyál Sub-division, 108 miles of boundary were surveyed and demaracted with boards let into trees.

BELGAUM.

6. In Belgaum, 2 square miles 319 acres of the Khánápur Sub-division were brought under Section 19 of the Act, and 111 acres 37 gunthás of the Belgaum Sub-division were excluded from protected forest.

7. 308 square miles of the Khánápur forests, which were notified under Section 34 of the Act in 1879, and about which a fresh enquiry and settlement had been ordered, were, on further consideration, finally constituted reserved forest.

DHA'RWA'R.

8. 3,866 acres 23 gunthás of forest-lands of the Hubli-Sub-division were notified under Section 4 of the Act.

KOLA'BA.

9. In Kolába, 28 gunthás of the reserved forests, and 14 acres 21 gunthás of the protected, were disforested. The forest settlement-work was brought to a close in 1887-88, but the orders of Government on the settlement-reports of Nágothna, Pen and Roha, sent in during that year, are still awaited.

BIJA'PUR.

10. The reports on the settlement of the lands in Bijápur, which were sent in by the Forest-Settlement-Officer, in 1887, had not gone up to Government by the end of the year under report. They were returned by the Commissioner, S.D., in May last, because the areas given did not exactly tally with the areas shown in another report by the Divisional Forest-Officer on "fuel and fodder-reserves."

11. A report on lands selected by the Divisional Officer for "fuel and fodder-reserves" along the East-Deccan Railway was submitted to Government through the Commissioner. The area which it is proposed to take up for this purpose amounts to 14,568 acres, and appears to consist of forest-clad land not suitable for permanent cultivation.

RATNA'GIRI.

12. In Ratnágiri, 47 acres and 28 gunthás were excluded from the reserved forests.

EXPENDITURE.

13. The expenditure on account of forest-settlement and demarcation during 1888-89 amounted to Rs. 8,521 as shown below :—

	Rs.
(1) Salaries and allowances of a Forest-Settlement and Demarcation Officer, not charged against the Forest Department ...	1,850
(2) Salaries and travelling allowances of the establishments employed under the Forest-Settlement-Officer, and contingent expense charged to "Forests"	2,801
(3) Cost of boundary-survey and demarcation charged to "Forests."	3,870
Total ...	8,521

14. The work actually effected during the year, which is represented by the above expenditure, comprises—

A.

The final settlement of—

(1) 89,244 acres in Kánara—proposals require sanction of Government.
1,599 acres in Belgaum—sanctioned by Government.

Total ... 90,843 acres, or 142 squares miles, at a cost of Rs. 32·75 per square mile.

B.

The demarcation of 108 miles of boundary at a cost of Rs. 35·83 per mile.

GENERAL REMARKS.

15. Mr. Wingate, of the Revenue Survey, was the only special officer employed for forest-settlement, and a great portion of his time was taken up with land-revenue-settlement. I am given to understand that the latter work will henceforth be very light and that progress in Kánara will be accelerated proportionately.

16. The maps of the whole area of forests in Kánara have not yet been issued, so that the figures of area are approximate only. Of the total estimated area, 789 square miles have been finally dealt with, partly as reserved, partly as protected; and the remaining area, or about $\frac{4}{5}$ths of the whole, has still to be settled under Chapter II. or made protected under Chapter IV. In 1879, the whole was gazetted under Chapter V.

17. In the other districts of the Circle what remains to be done is:—

Dhárwár.

(1) The settlement of 3,867 acres of new "Fuel and fodder" reserves, recently notified under Chapter II (Government Resolution No. 3122 of 18th May 1888).

(2) The conversion of the areas, orginally protected under Chapter IV., into reserved forest (Government Resolution No. 6066, dated 19th August 1889).

Belgaum.

(1) The settlement of 39,239 acres of land (selected subsequently to the original forest-settlement) in the Khánápur Táluka.

(2) The conversion of the areas, originally protected under Chapter IV., into reserved forest (Government Resolution No. 6066, dated 19th August 1889).

Bijápur.

The settlement of the proposed "fuel and fodder" reserves, aggregating 14,568 acres.

18. The statement marked A in the Appendix, shows the results of settlements sanctioned by Government. It does not include work, finished by the Forest-Settlement-Officers, but not sanctioned by Government up to the 31st March last. In the estimate of the work still to be done, it is necessary to take into account work accomplished but not yet sanctioned.

19. There appears to be no reason why the whole of the field-work for the districts outside Kánara should not be completed during the next two working-seasons, as a special officer has been appointed to do the settlement of Dhárwár and Belgaum.

CHAPTER II.

SURVEYS AND WORKING PLANS.

I.—SURVEYS.

20. During the year a party of the Topographical Survey of India, under Colonel Pullan, was placed entirely at the disposal of the Bombay Government

for forest surveys. The standard scale was fixed at 4 inches to the mile, and all forests surveyed were surveyed on that scale.

21. Work was continued in the Northern Division of Kánara, and 132·75 square miles are reported by Colonel Pullan to have been completed.

22. The expenditure for the year was Rs. 25,200, so that the cost of the completed detail-survey, together with the advance-work accomplished, came to Rs. 190 per square mile. During the previous year, the cost came to Rs. 250. The past year's results are, therefore, so far favourable that the cost per square mile was considerably less than that of the previous year, but the rate is still very high and represents about two years' average net revenue.

23. The survey was carried out on the same system as that adopted during the previous year.

II.—WORKING PLANS.

24. Messrs. Bell and Oliver, Assistant Conservators, continued the enumeration of the forests which it is proposed to tap by means of a railway or tramway.

25. Mr. Bell measured the diameters of all trees over 6 inches in diameter on 2,268 acres, and Mr. Oliver those on 3,554 acres. These test-plots represent an area of 117,414 acres of forest.

26. The comparative smallness of the area examined by Mr. Bell may be attributable to the greater difficulty of the ground.

27. The justification of the proposed railway rests mainly on the quantity of teak annually exploitable. The quantity of other wood is very considerable, and much greater than the amount required for the proposed railway scheme.

28. The calculations have not yet been completed, but it appears probable that a yield of 2,300 teak-trees, over 24 inches in diameter, estimated to contain 3,900 tons of 50 cubic feet per ton, could safely be exploited annually from the forests east of the Gund-group, which is very difficult to get at. These 200,000 cubic feet of teak represent a much larger annual yield than has ever yet been exploited from the forests of the Northern Division of Kánara, and it would probably be difficult to get transport to carry out the work in the ordinary way by means of bullocks and carts. About 120,000 cubic feet is the usual quantity of teak exploited, and even this quantity is exploited with difficulty because only a certain class of men can be induced to undertake the work in the heart of the forests. A rail or tramway, will, therefore be necessary if a yield of 200,000 cubic feet is to be extracted.

29. Mr. Bell was assisted by Mr. Sátáráwála, Acting Sub-Assistant-Conservator, until the middle of December, when the latter fell seriously ill and did not return during the rest of the working-season. His place was taken by Mr. Sheshu Manju, Sub-Assistant Conservator.

30. Mr. Oliver was assisted by Mr. Haripad Mitra, who, however, soon left on account of illness, and did not return during the working-season.

CHAPTER III.

PROTECTION AND IMPROVEMENTS.

ESTABLISHMENT.

31. No change was made in the existing permanent staff, which was as usual supplemented by a temporary establishment. Proposals for a re-organization of the superior and subordinate staff were sent in on 25th June and 7th August 1888 as ordered by Government.

BREACHES OF THE LAW.

32. The number of prosecutions disposed of by Magistrates is as follows:—

No.	Divisions.	1887-88.			1888-89.			Percentage of Failures.	
		Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	1887-88.	1888-89.
1	Northern Division of Kánara	13	5	18	11	2	13	28	15
2	Central Division of Kánara	9	1	10	5	3	8	10	37
3	Southern Division of Kánara	11	6	17	9	9	18	35	50
4	Belgaum	7	6	13	11	1	12	46	8
5	Dhárwár	7	2	9	5	1	6	22	16
6	Kolába	22	8	30	45	9	54	26	17
7	Bijápur	1	3	4	8	3	11	75	27
8	Ratnágiri	5	2	7	4	3	7	28	42
	Total ...	75	33	108	98	31	129	31	24

33. The number of cases for the Circle shows an increase of 21, while the percentage of failure decreased from 31 to 24. The increase in the number of cases occurs almost entirely in Kolába where there were 15 cases of illegal *dáhli* cultivation and of thefts of wood from the forest reserves adjoining *dhára*-lands. The Divisional Officer complains that fellings in *dhára*-lands are used as a cloak for raiding in Government jungles, and that, until the rules under Section 41 of the Forest Act are amended, thefts of this nature will be very difficult to prevent.

34. But there is also reason to suspect that the forest subordinates connive at illicit practices and one range-forester's conduct was so unsatisfactory that he had to be degraded and transferred to Kánara, while another had to be transferred to another division.

35. The Kolába Division, owing to the peculiarities and varied forms of tenure existing there, is certainly the most difficult to protect of all the divisions of the Southern Circle; at the same time it is also by far the most strongly manned. Yet, in spite of the great number of guards, protection appears to be worse there than in any other part of the district, and I think this fact goes far to prove the argument that the great desideratum is not so much an increase in the number of guards as an improvement in the quality, and an increase in the number of superior officers who supervise them.

36. A case in Belgaum deserves special notice, in which 2 patels and 3 forest-guards were sentenced to imprisonment for terms varying from six months to one year, for having taken bribes in the execution of their duty in connection with the collection of grazing fees.

37. The following cases were compounded:—

No.	Division.	1887-88.		1888-89.	
		Number of cases commuted.	Amount of fines recovered.	Number of cases commuted.	Amount of fines recovered.
			Rs. a. p.		Rs. a. p.
1	Northern Division of Kánara	22	55 14 10	20	37 9 2
2	Central Division of Kánara ...	1	2 0 0	9	92 9 7
3	Southern Division of Kánara	32	342 0 0	109	401 0 0
4	Belgaum	37	114 9 10	62	307 12 11
5	Dhárwár	55	103 8 4	60	148 12 11
6	Kolába	140	515 0 7	194	855 2 3
7	Bijápur	310	231 6 6	89	174 15 3
8	Ratnágiri	55	97 13 10	56	252 11 3
	Total ...	652	1,462 5 11	599	2,270 9 4

38. A far greater number of cases was compounded in Belgaum and the Southern Division of Kánara than during the previous year, and this was, apparently, partly due to the new system of offering rewards to informers (under Government Resolution No. 8568, dated 16th December 1887), and partly to increased activity on the part of the forest officials. Kolába also shows an increase, where many cases of illegal *dáhli* cultivation are reported to have been compounded. The great decrease in Bijápur is not ascribable to any particular cause.

39. A statement showing the number of cases compounded or taken into Court, required by Government Resolution No. 3527 of 2nd May 1884, is given below :—

No.	Divisions.	Taken into Court.		Compromised under Section 67.		Total number of cases.	
		1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
1	Northern Division of Kánara	18	16	22	20	40	36
2	Central Division of Kánara	10	13	1	9	11	22
3	Southern Division of Kánara	17	55	32	109	49	164
4	Belgaum	13	13	37	62	50	75
5	Dhárwár	9	6	55	60	64	66
6	Kolába	35	58	140	194	175	252
7	Bijápur	5	14	310	89	315	103
8	Ratnágiri	7	7	55	56	62	63
	Total ...	114	182	652	599	766	781

40. Of the 182 cases taken into Court, 53 were pending at the close of the year.

FOREST FIRES

41. Were as prevalent as ever. Nearly all were no doubt caused by incendiaries, and, in two or three instances, offenders were detected in the act and punished.

42. The area, for the fire-protection of which special measures were adopted in the three Kánara divisions, and those of Belgaum, Dhárwár and Kolába, amounted to 997 square miles; and 812 square miles 121 acres are reported to have been successfully protected at a cost of Rs. 3,490; the cost per acre of jungle attempted to be protected comes to 1·04 pies; but if the area reported to have been successfully protected alone be considered, the cost comes to 1·2 pies per acre.

43. The following facts no doubt militated against good results :—

(1) The unfavourableness of the season owing to the late setting-in of the summer-rains.

(2) The up-set of the original plans of operation at the last moment, owing to reduction by Government of the proposed expenditure.

(3) Enclosing too large an area by one fire-line in many cases.

44. The reported details of fire-protection are given in Form No. 51. It is impossible to place implicit reliance on these figures. From what I saw I would certainly say that the greater part of the specially-protected area was burnt, but the return shows that only 91,007 acres out of a total of 281,709 were burnt in the Northern Division. The correctness of the returns for the Central Division is still more doubtful, as fires were very prevalent there this year and frequently got into the specially-protected area.

45. That the greatest kindness and consideration on the part of Government—the granting to the rayat of the privilege to help himself to every thing he can possibly need in the form of forest produce—will not effect anything, is quite clear from the behaviour of the people in Kánara.* In spite of repeated entreaties, on the part of Government-officers, during the last twenty years, incendiarism is as prevalent in Kánara as in any part of the Circle in which privileges are confined to the collecting of dry firewood for domestic use.

46. That something can be done without the villagers remaining passive, I do not deny. We may be able to protect small areas at great expense, but nine-tenths of the deciduous forest will always be burnt, and its very existence as timber-forest endangered, by a handful of ungrateful and selfish men. If incendiaries could be easily detected, it would be a different matter, but it is easier to find a needle in a haystack than to detect an incendiary in the compact forest areas of Dhárwár, Belgaum and Kánara.

47. To remove the plague, very drastic measures need not perhaps be resorted to, but the immediate self-interest of the villagers must be brought into play. To tell the rustic—or, for that matter, the better-educated classes—that, unless he desists from firing the jungles, a hundred years or more hence his descendants may be deprived, as a natural consequence of his action, of many advantages he now derives from the forests, has no meaning for him whatever, the contingency is far too remote for his serious consideration.

48. Government have accepted the principle here enunciated and directed** that where fires are due to the co-operation, connivance, or gross negligence of the villagers, free grazing should be stopped for one year if one-third of the area has been burnt. But the application of this rule would be ineffectual throughout the forests of the Southern Marátha Country, because, practically, there is no free grazing. In forests, in which the fee *must* be paid for an animal, if it is to be grazed at all, because only that payment will open to it the grazing in an area sufficient for its wants, the closing of a comparatively-insignificant area (utterly insufficient to meet the grazing-requirements of the cattle of the village to which it belongs) is no penalty on the owner. In Kolába, and in some parts of the Northern Circle, grazing has hitherto been *free*, and, in such cases, the application of the rule would be a real punishment and equivalent to the one, which, in the 39th paragraph of my last administration-report, I submitted for the consideration of Government with a view to its being applied to the forests of the Southern Marátha Country.

** Government Resolution No. 1942 of 24th March 1888.

49. The extreme importance, even from a purely financial point of view, of protecting the forests from fire is forcibly demonstrated by a comparison of the growth of teak in areas which have been continuously protected with that of teak growing in any unprotected part of Kánara. Compare, for instance, the growth of teak in the fire-protected plantation of Birchi and the neighbouring

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* *Produce which may be taken without permission free of charge.*

(1) Bámbus.
(2) Junglewood for small-houses, huts, chappers, cattle-sheds, &c.
(3) Dry-wood for fuel.
(4) Reeds and grass for manure.
(5) Thorns and brush-wood and stakes for hedges and dams.
(6) Wood for agricultural implements, carts, sugar-cane-mills, grain-mills, &c. ; earth and stones.
(7) The clearing away of all small brush-wood and thick low-jungle within 50 feet of the boundaries of cultivated lands.

Produce which may be granted free on permission.

(8) Dead sago and other palm-trees for water-courses, &c.
(9) Large wood for repair of private houses.
(10) Large wood for works of public utility, *e. g.* (1) village chaukis, (2) schools, (3) dharmshálas, (4) for covers, fencing, &c., to public wells, bridges over nálás and water-courses.
(11) Bettá-lands free for ráb and firewood, at the rate of 4 to 8 acres of bettá for every acre of garden-land.

forest of Gobrál, which has not been specially-protected and which is frequently burnt:—

Name of Forest.	Average age of trees of the diameter shown in column 3.	Diameter at 4 feet from the ground.	Rate of diameter increment per annum.	Rate of cubic increment per cent. per annum.
1	2	3	4	5
	Years.	Inches.	Inches.	Feet.
Birchi ...	17	6·45	·35	8·35
Gobrál ...	42	8·00	·17	5·53

50. The inference that may be drawn from the comparison appears to be that fires reduce the diameter-growth to one-half of the normal. Consequently, that the yield of a forest continuously protected from fire would be double that of one not so protected: and that, instead of cutting 200,000 cubic feet of teak-timber annually in the Northern Division of Kánara—the present estimated sustained yield—we might with fire-protection cut 400,000 cubic feet. In reality we should get a great deal more, for a greater number of sound trees would reach maturity if the area were continuously protected from fire. But it does not appear to be at all probable that the forests can continue to yield even 200,000 cubic feet unless fires are kept out.

51. I have already alluded to the upsetting of the plans for fire-protection owing to the reduction of the proposed grant for that purpose. In some parts of the Circle, fire-paths had to be cleared in December, but the sanctioned budget-estimate was received on the 2nd January 1889, and I then learnt that the grant had been reduced from the proposed sum of Rs. 15,560 to Rs. 11,000. This necessitated my stopping all further fire-protection until I had learnt what works had been already carried out. A fresh allotment to divisions of the sanctioned sum had then to be made, and fresh schemes had to be prepared by the Divisional officers. But before all this could be accomplished, the fires were upon us.

52. The fact that last season was the first one in which fire-protection was attempted on a large scale, no doubt added to the difficulty of protection. The blocks attempted were generally too large for enclosure by one line and interior lines should have formed part of the plan.

53. The only areas that ordinarily escape fire without the adoption of special measures are evergreen forests. It is impossible to give the areas of these evergreens as they have not been measured off from the deciduous areas with which they are intermingled, and it is, therefore, impossible to give the information asked for by the Government of India in the 11th paragraph of their letter No. 816—F, dated 5th August 1889. They cover a comparatively small area and are to be found chiefly on the crest and western slopes of the ghâts almost to the sea-board.

54. An attempt was made to eradicate by burning a species of *Strobilanthes* which has taken possession of large areas on the Belgaum ghâts and which seeded during the year. The attempt was made, at the request of the Director of Agriculture, without much hope of its doing any good as the *bakra* has come up and spread in spite of annually-recurring fires. The villagers agreed to burn the plant, and clear it away from around harda-trees in order that they should not be damaged by the fire, and, therefore, the experiment was sanctioned. The result is not yet known.

GRAZING AND FENCING.

55. The revenue from grazing was Rs. 65,879, Rs. 4,352 more than during the previous year. The increase is mainly in the Belgaum Division where it (Rs. 3,911) is due to the energy of Mr. Murray and his subordinates, and to Mr. Fairlie-Muir, the Collector, who issued stringent orders to the kulkarnis and patels, who collect the revenue, not to delay the collection. In former

years, it has been the custom to allow cattle to continue to graze after the expiry of the permits, on the presumption that fresh permits would be taken out for them in due course. This rule led to great laxness in the collection of fees by the kulkarnis, enabled many graziers who bring their cattle to graze in the forests for a few months only of the dry season, to escape paying the fee altogether, and opened the door to fraud on the part of the kulkarnis and forest subordinates. Last cold weather, notice was, therefore, given that permits could be obtained beforehand for the ensuing season in the districts of Dhárwár, Belgaum and Kánara, but that no animal would be allowed to graze in the forests without a permit. The result has been a very large increase in Belgaum, and there will probably be an appreciable increase in Kánara and Dhárwar. Here are the figures:—

No.	Division.	1888-89, April to March.	1889-90, to 1st November.
		Rs.	Rs.
1	Belgaum	19,495	22,822
2	Dhárwár	16,289	14,814
3	Southern Division of Kánara ...	8,649	8,558
4	Central Division of Kánara ...	6,676	6,334
5	Northern Division of Kánara ...	6,837	6,351

56. These figures show the results for 1889-90 up to date only, whilst those for 1888-89 are for the whole year.

57. Grazing in Kolába and Ratnágiri has hitherto been free, and in Bijápur, the old system still exists of selling annually the right to pasturage in the forests. As soon as the proposed settlement of Bijápur receives the sanction of Government, the fee-system—which is the more acceptable mode of sale to the people, and the more profitable one to Government—will be introduced.

58. In Dhárwár, the forests of the Kod, Ránebennur, Bankápur and Karajgi-Sub-divisions, aggregating 37,445 acres, were closed to grazing; in Kolába 4,407 acres were closed; in Bijápur 5,235 acres of the Bágalkot and 8,305 acres of Bádámi forests were selected for closure; and in Belgaum 12,167 acres were closed to grazing.

NATURAL REPRODUCTION.

59. By-seed was bad, owing to the prevalence of fires.

60. Reproduction from stools in the firewood-coupes was good.

61. The only obstacles to natural reproduction by seed in the greater part of the forests of Kánara are fires and, in a less degree, grazing. The most valuable forests of that district are opening out, and it is only seedlings in evergreen-groups, and in others in which the predominant species is *jámbá* (Inga xylocarpa), that seedlings are able to make way from the first against fires.

62. The same remarks apply to the western parts of Belgaum and of Dhárwár.

63. Innumerable seedlings come up during the rains in situations less favourably situated for their survival, and are burnt down during the hot weather. In some cases, the roots survive, and then a fresh shoot is sent up at the beginning of the ensuing rains, which, in its turn, is burnt down in due course, and so on until the plant either succumbs or establishes itself after a fashion.

64. In Kolába and Ratnágiri, the jungles consist chiefly of coppice, the young shoots of which, although retarded in their growth and damaged by fires, are not easily killed outright.

65. In Bijápur, and in the eastern portions of Belgaum and Dhárwár, the forests consist mostly of scrub and small stuff up to 20 feet in height, the

rainfall is scanty, and the ground stony and covered with spear-grass. The conditions are, consequently, all unfavourable to natural regeneration by seed. Thorns and cactus are almost the only species that can propagate themselves in open ground by seed in the worst parts of the Circle; but, where thorny cover is pretty dense, it has been found, in the tálukas of Bádámi and Bágalkot of Bijápur, that tree-species which do not make much demand on the soil, and stand shade when young, such as *nim* and sandal, can be got to grow by simply sowing their seeds broad-cast amongst the bushes. Sheep and goats* are very numerous in all the eastern forests and are a great hindrance to natural reproduction, as they are only excluded from a portion of the forest-area. The very small fee of half-an-anna, which is charged for the right to pasture one of these animals for one year, encourages their increase within forest-limits, and I certainly think it would be a good plan to raise the fee to 4 annas if it is not thought expedient to exclude them altogether. They are bred chiefly for sale. A goat can now be fed for the market, entirely at Government-expense, for one year for half-an-anna, and it can then be sold for 12 annas or a rupee. For horned cattle, which do much less damage to the forest, 2 annas a head are paid.

ARTIFICIAL REGENERATION.

66. In the Northern Division of Kánara, 13,000 casuarina-seedlings were planted out on 11 acres of sandy waste. Of this number, a few died owing to drought, but the general state of the plantation, which is now 20 acres in extent, is good. A nursery containing 10,000 seedlings was made.

67. In the Central Division of Kánara, nurseries of teak, harda, matti and hone-seedlings were made near several watch-houses by the guards in charge: and about 2 cart-loads of seeds of various kinds were sown broad-cast under dying karvi (*Strobilanthes*), but, as the ground was subsequently traversed by fire, good results cannot be anticipated. In the Ankola-Sub-division, 2,858 teak, 1,000 casuarina, and 230 harda plants were put out. In the Kumta Sub-division, out of 1,275 casuarina, divi-divi and harda plants, planted in previous years on old *kumri*-lands, about 730 have survived.

68. In the Southern Division of Kánara, Bijápur and in Ratnágiri, a quantity of seeds was also sown broad-cast by forest-guards. In Ratnágiri, a nursery, containing 15,603 seedlings of various kinds, was made.

69. The experiment made last year at Jaknur in Bijápur to grow plants in the open without watering them was not a success. Of the 3,392 plants put out only 550 survived.

70. In Dhárwár, a few small areas were planted with anjan (*Hardwickia*), but the plants died from drought.

71. Altogether, a sum of Rs. 3,595 was expended on plantations during the year.

72. As a means of maintenance and improvement, importance is attached to the filling-up by guards of gaps caused by fellings in jardinaged forests. Old stumps of girdled trees do not throw out shoots when the trunks are cut down. But only superior species are girdled, and the drain on teak is so great that it must gradually disappear unless special means are adopted for favouring it in the struggle for existence. The most suitable men to employ for this purpose are evidently the guards, who should know where gaps have occurred, and can afford the time to attend to desultory work of this nature. The débris of branches of trees just felled affords good protection from animals, although somewhat increasing the risk of damage by fire, and I have ordered that, wherever a timber-tree in jardinage is cut out, two or three seedlings of teak, or other suitable tree of a superior kind, should be put down in the entanglement of branches which are not saleable. In the heavy timber-forests of Kánara seedlings from self-sown seeds can nearly always be obtained close to the sites of fellings, from spots in which they could not possibly all survive owing to their own density, the denseness of the cover over them, or other cause. In this manner, I think that an immense amount of useful work can be done by the guards without in any way interfering with their other duties.

* Since the close of the year, the grazing of goats in Bijápur forests has been prohibited.

73. So also in firewood, and worthless scrub-jungle much good can be effected by guards in planting or sowing inferior species in the more open parts and superior species in suitable places where the cover is denser. A beginning in this direction has been made by the officers in the Central Division of Kánara, and in Dhárwár, Bijápur and Ratnágiri. In future greater attention will, I hope, be paid to the subject in other divisions.

COMMUNICATIONS AND BUILDINGS.

74. The amount expended on "roads and bridges" was Rs. 1,973, on "buildings" Rs. 4,280 and on "other works" Rs. 486.

75. In the Northern Division of Kánara certain forest cart-tracks were repaired (Rs. 71-11-0); 2 new watch-houses were built (Rs. 600) and the range office at Supa was completed (Rs. 199).

76. In the Central Division of Kánara the Kánnigéri-Udámáki and Hittálkárgadde-Mágód roads were repaired (Rs. 525) and two new watch-houses were built (Rs. 600).

77. In the Southern Division of Kánara the roads between Manchikéri and the Singanhalli Depôt, and between Kátur and Umachgi were repaired (Rs. 434). A new watch-house was built at Gersappa (Rs. 300), and a building for the Divisional Forest Office at Sirsi (Rs. 950).

78. In Belgaum, the Nágargáli-Halshi forest road was repaired (Rs. 915) and a new *náká*-house was built at Gokák (Rs. 188-12-0).

79. In Dhárwár, a *náká*-house was built at Kalkundi (Rs. 300), and the rest-house at Devikop was repaired (Rs. 200).

80. In Ratnágiri, the Bánd-road was put in repair as usual (Rs. 25-2-0).

81. It may perhaps appear to any one unacquainted with the district that communications are neglected in the Southern Circle. This is, however, not the case. With the exception of Kolába and Ratnágiri, where creeks and rivers take the place of roads to a very great extent, the whole of the forest area is extremely well provided with roads, for the repairs of which large quantities of wood are given free every year from the forests. Even the proposed line of railway to Pótóli will not open up forests hitherto unexplored, but will run for its whole length (21 miles) through forests which have been worked for many years by means of carts. If it is to open up forests to the market above-ghát, it will have to be taken 15 or 20 miles further, across the Káneri-river to Gund.

82. The survey of a line for the proposed forest railway which is intended to tap the forests between Nágargáli, on the Southern Marátha Railway, and Gund, was carried as far as Pótóli. Pótóli is about 21 miles from its junction with the existing railway, and Gund about 40 miles. The rough estimate of the yield of the tract traversed by the proposed line will be submitted in a few weeks.

CHAPTER IV.

YIELD AND WORKING.

83. The following shows the yield of the forests of the several divisions of the Southern Circle for the two years of 1887-88 and 1888-89 :—

Description of Produce.	1887-88.		1888-89.	
	Number.	Cubic feet.	Number.	Cubic feet.
Teak	...	256,596	...	250,576
Do. poles	10,788	...	23,028	...
Do. pieces for sleepers ...	46,164	...	17,319	...
Do. adzed sleepers	2,009	...	90	...
Thinnings from teak trees ...	...	...	Stacks 13	...
Blackwood	...	7,999	...	18,246

	Description of Produce.		1887-88.		1888-89.	
			Number.	Cubic feet.	Number.	Cubic feet.
Northern, Central, and Southern Divisions of Kánara	Blackwood poles	...	...	...	5	...
	Do. pieces	...	...	...	4	...
	Do. plants	...	1	...	16	...
	Junglewood	...	...	397,605	...	314,090
	Do. poles	...	7,313	...	2,529	...
	Do. rafters	...	...	...	1,496	...
	Do. pieces	...	...	...	687	...
	Do. stakes	...	...	...	635	...
	Gayaliwood	...	100	...	...	...
	Mango trees	...	2	...	...	...
	Baini trees	...	390	...	391	...
	Savri or Moi trees	...	...	...	242	...
	Palmyra trees	...	111	...	117	...
	Heart of palm	... Loads.	85	...	112	...
	Jarúitiwood logs	...	...	...	320	...
	Do. pieces	...	1,089	...	1,358	...
	Do. stacks	...	153	...	44	...
	Firewood ...	...	...	1,062,965	...	1,499,793
	Do. ...	... Tons.	21,777	...	8,693	...
	Do. ...	... Maunds.	...	...	2,349	...
	Do. ...	... Stacks.	635	...	539	...
	Do. ...	... Cart-loads.	7,904	...	6,629	...
	Do. ...	...Head-loads.	193,473	...	156,424	...
	Charcoal ...	... Maunds.	332	...	304	...
	Do. ...	... Sacks.	...	...	215	...
	Bámbus ...	... ..	4,197,415	...	3,853,316	...
	Do. small	... ...	3,200	...	775,325	...
	Sandalwood	... Khandis.	111-6-9	...	73	...
	Do. roots and pieces	...	...	...	2,168	...
	Do. white wood chips	...Bags.	12	...	26	...
	Do. trees	... ..	...	...	189	...
	Grass ...	... Bundles.	78,900	...	51,530	...
	Thorns ...	... Carts.	11	...	24	...
	Props for fencing	... ...	214	...	...	...
	Myrobolans	... Khandis.	3,987	...	4,356	...
	Shigekai ...	... Do.	125	...	15	...
			Khandis	...	Maunds	...
	Do. bark	... ...	900-66	...	2,534	...
	Ratan ...	Head-loads.	709	...	...	...
	Cane ...	... ...	...	...	535	...
	Creepers for baskets	... Do.	142	...	...	...
	Reeds ...	... ...	34,450	...	10,500	...
	Karvi ...	...Head-loads.	587	...	2,480	...
	Hadchari leaves	... Do.	53	...	29	...
	Earth ...	... ...	...	...	...	7,350
	Do. ...	... Cart-loads.	92	...	69	...
	Stones ...	... ...	...	...	...	12,050
Belgaum Division.	Teak logs ...	... ...	...	203	...	...
	Do. poles and pieces	...	...	39,950	...	19,846
	Branch wood from above	...	2,596	...	310	1,533
	Slabs ...	... ...	2,335	...	75	...
	Blackwood logs	... ...	244	...	351	...
	Do. poles	... ...	66	...	63	...
	Junglewood logs	... ...	...	11,278	...	2,040
	Do. poles and rafters	...	...	21,037	...	12,797
	Bábul trees	... ...	...	750	...	629
	Samplewood	... ...	...	5,440	...	...
	Agricultural implements	...	9	...	...	...
	Firewood (running fuel)	...	...	2,893,020	...	1,657,094
	Do. lighting wood	...	...	2,000	...	131,740
	Do. ...	... Stacks.	...	3,901,600	...	679,450
	Do. ...	... Cart-loads.	4,449	...	3,320	132,800
	Do. ...	...Cattle-loads.	721	...	536	1,072
	Do. ...	... Head-loads	115,633	...	127,628	382,884

	Description of Produce.	1887-88.		1888-89.	
		Number.	Cubic feet.	Number.	Cubic feet.
Belgaum Division—*continued.*	Charcoal ... ... Maunds.	532	...	144	...
	Bámbus	44,909	...	59,753	...
	Do. small	614,007	...	504,646	...
	Sandalwood...	...	20	...	...
	Do. pieces	...	20	...	30
	Grass ... ... Bundles.	415	...	623	...
	Toddy trees, sale of	4	...	18	...
	Do. tapping fees on ...	61	...	115	...
	Myrobolans... ... Khandis.	6,923	...	6,655	...
	Shigekai ... ... Do.	300	...	760	...
	Cinnamon ... ... Maunds.	400	...	2,140	...
	Tamarind ... ... Do.	546	...	102	...
	Gum ... ... Do.	1,050	...	292	...
	Honey ... ... Do.	108	...	291	...
	Coffee ... ... Seers.	10	...	6	...
	Castor-oil seeds ... Do.	...	...	12	...
	Ratan ... ...Head-loads	148	...	241	...
	Banadurgi leaves ... Do.	83	...	310	...
	Karvi ... ... Cart-loads.	228	...	173	...
	Tarwad bark ... Do.	...	...	3	...
	Do. Animal-loads.	132	...	137	...
	Do. ...Head-loads.	503	...	806	...
	Thorns ... ... Cart-loads.	90	...	88	...
	Do. ... Animal-loads.	115	...	93	...
	Do. ... ...Head-loads.	279	...	1,655	...
	Earth ... ...Cattle-loads	...	...	1,352	...
	Do. ... ... Baskets.	21	...	41	...
	Stones	...	1,019,536	...	204,757
	Do. ... ... Cart-loads.	8,497	...	10,031	...
	Do. ... ...Cattle-loads	3,983	...	5,188	...
Dhárwár Division.	Teak rafters	13,570	...	7,718	...
	Junglewood rafters	1,516	...	896	...
	Jaráitiwood do.	21,401	...	18,442	...
	Sleepers	32	...	32	...
	Do. unsound pieces	37	...	...	...
	Do. slabs	11	...	...	...
	Ulkas	1,000	...	...	...
	Firewood ... ... Stacks.	10,982	...	11,394	...
	Do. ... ... Cart-loads.	224	...	285	...
	Do. ... Animal-loads.	2,583	...	1,740	...
	Do. ... ...Head-loads.	18,274	...	21,819	...
	Bámbus	321,709	...	5,60,341	...
	Do. pieces	...	...	7,424	...
	Do. ... ... Cart-loads.	11	...	164	...
	Sandalwood... ... Billets.	2,148	...	1,022	...
	Do. pieces	38	...	90	...
	Do. chips and saw-dust. Maunds.	7	...	11	...
	Grass ... ... Loads.	...	...	111	...
	Do. ... ... Pullies.	3,805	...	8,519	...
	Hirda ... ... Khandis.	5-15-19	...	3¼	...
	Thorns ... ... Loads.	2,076	...	1,875	...
	Earth ... ... Do.	16	...	100	...
	Stones ... ... Do.	4,419	...	1,917	...
Bijápur Division.	Timber ... ... Pieces.	20	...	7	...
	Do. Jantis ...Head-loads.	4,189	...	7,265	...
	Firewood ... ... Cart-loads.	2,542	...	3,026	...
	Do. ... Animal-loads.	16,615	...	32,051	...
	Do. ... ...Head-loads.	94,903	...	77,176	...
	Do. ... ... Pieces.	20	...	150	...
	Leaves ... Animal-loads.	131	...	6	...
	Do. ... ...Head-loads.	2,316	...	6,220	...
	Tarwad bark Animal-loads.	298	...	400	...
	Do. ... ...Head-loads.	672	...	650	...

	Description of Produce.		1887-88. Number.	1887-88. Cubic feet.	1888-89. Number.	1888-89. Cubic feet.
	Thorns ...	... Stacks.	678	...	450	...
	Do. ...	...Head-loads.	389	...	500	...
	Stones ...	... ...	...	259,716	...	127,017
	Do. ...	... Cart-loads.	28,962	...	2,165	...
	Do. ...	Animal-loads.	1,384	...	5,800	...
	Do. ...	...Head-loads.	1,872	...	36,291	...
	Earth ...	... Cart-loads.	550	...	825	...
	Do. ...	Animal-loads.	5,303	...	5,667	...
	Do. ...	...Head-loads.	2,972	...	44	...
Kolába Division.	Teak trees	...	116,136	...	100,905	...
	Do. beams ...	...	790	...	401	...
	Do. 1st class ...	...	3,674	...	2,138	...
	Do. 2nd do. ...	...	4,951	...	5,062	...
	Do. 3rd do. ...	...	6,753	...	6,928	...
	Do. 4th do. ...	...	3,688	...	3,477	...
	Miscellaneous ...	...	5,678	...	6,425	...
	Do. pieces ...	...	2,488	...	300	...
	Firewood Kowl Khandis	...	27,000	...	23,000	...
Ratnágiri Division.	Teak beams and sotas ...	...	1,115	...	1,342	...
	Do. poles, 1st class ...	...	3,687	...	2,869	...
	Do. 2nd do. ...	...	5,072	...	3,828	...
	Do. 3rd do. ...	...	5,199	...	6,950	...
	Do. 4th do. ...	...	2,929	...	5,284	...
	Firewood	Khandis.	422	...	550	...
	Myrobolans... ...	Maunds.	42	...	34	...

84. The order of Government to show all quantities in the statements in cubic feet arrived too late to enable me to render the past year's account in the desired form.

NORTHERN, CENTRAL AND SOUTHERN DIVISIONS OF KA'NARA.

85. The large teak exploited was 6,020 cubic feet less than during the previous year, and the quantity of large junglewood exploited fell off to the extent of 83,515. A greater quantity of dead wood was brought in, but no contracts for cutting girdled wood were given out as there was a sufficient surplus of the previous year in stock to make up the proposed yield; hence the decrease in the quantity brought in.

86. The number of teak-poles exploited was greater by 12,240 and the yield of blackwood was greater by 10,247 cubic feet.

87. The outturn of teak-pieces for sleepers fell off to the extent of 30,764, the demand for sleepers by the Southern Marátha Railway Company being now very limited.

88. The yield of sandalwood-timber in the Central and Southern Divisions was less than the quantity brought in during 1887-88 by 38 khandis, but 2,168 roots and small pieces in those divisions and 189 trees in the Northern Division were brought in.

89. The firewood exploited was almost equal to the previous year's. The myrobolan-collection shows an increase of 369 khandis, while shigekai was less by 110 khandis.

90. Of large and small bámbus 428,026 more stems were extracted during the year than in the previous one. The increased consumption can only be ascribed to the facility for export afforded by the new railway.

BELGAUM.

91. The quantity of running fuel extracted for the Southern Marátha Railway-Company shows a decrease of 1,235,926 cubic feet. It was 1,657,094 cubic feet against 2,893,020 in 1887-88, but the lighting fuel brought in for the Company was more by 129,740 cubic feet. The decrease in the former item appears to be entirely due to the great difficulty experienced in obtaining transport.

92. The annual requirements of the line are estimated at 45,000 tons or over 3,000,000 cubic feet by the Locomotive Department. Last year's production amounted to 24,000 tons. Mr. Murray reports that "the cause of the collapse was the difficulty of obtaining transport from the forest to the depôts. In order to supply the required amount of fuel, at least 250 carts must be daily employed in carrying the wood, and, as no grass, nor fodder, of any kind is obtainable on the spot, at least 40 or 50 more are required for bringing supplies from elsewhere. It is not at all an easy matter to collect so many carts out in the jungle, nor, when collected, to keep them together. A sudden epidemic of jungle-fever causes a panic, or one of the constantly-recurring native festivals intervenes, and away go the cartmen for a week or two at a time."

"The lead from the forest to the railway was much greater than in the preceding year and will go on increasing year by year, necessarily involving the employment of more and more carts."

93. To meet this difficulty, proposals for a 24-inch tramway, to be worked by bullocks, were submitted in October, 1888. But Government thought that the work should be carried out by the Railway-Company, and referred the question to the Agent. Since then I have heard nothing more of the project officially, but have reason to believe that the Railway authorities are unwilling to undertake the work, their estimate of the cost being very high owing to their desire to have the standard gauge and to effect the haulage by means of locomotives.

94. Unless transport by means of rails be substituted for the present mode of exploitation, it will hardly be possible to get out more than 30,000 tons annually and, apart from any other advantages derivable from a tramway, Government will, if expenses be taken at the present rate, lose Rs. 30,000 a year, net, on account of our inability to get out the present estimated requirements of the line, which are sure to increase. There does not appear to be the slightest likelihood of coal supplanting wood-fuel, which, at the present rate of Rs. 4 per ton, is very much cheaper to use than English or native coal.

95. There is a falling-off in the number of firewood stacks exploited for local consumption, the demand having been partly met from what remained of the previous year's cuttings.

96. The yield of myrobolans was about equal to the previous year's. But little teak-timber was exploited during the year, and there was a decrease in the yield of junglewood-logs, poles and rafters from the clean cuttings of the firewood-coupes—always variable quantities. The number of large bámbus extracted shows an increase.

DHA'RWA'R.

97. The yield of teak and junglewood was much less; but a larger quantity of firewood for local use was collected, and 238,632 more bámbus were removed during 1888-89.

BIJA'PUR.

98. In Bijápur the following increases are noticeable: 3,066 head-loads of jantis, 482 cart-loads and 15,436 animal-loads, of firewood; also 102 animal-loads of *tarwad*-bark.

KOLA'BA.

99. The falling-off in the number of teak-poles cut amounted to 16,334. 100,905 trees were removed by contractors, and 24,431 by Government-agency,

the whole number consisting of coppice-stems. The quantity of fuel removed for export was 4,000 kowl khandis less than in 1887-88 owing to a falling-off in the demand.

RATNÁGIRI.

100. The yield of this division calls for no remarks. The forests are poor and require rest.

101. The Kánara saw-machinery worked in all 293 days, or 3 days less than in 1887-88. The number of logs cut up was :—

	1887-88.		1888-89.	
	Logs.	C. feet.	Logs.	C. feet.
Teak ...	... 1,419	= 27,279	2,165	= 46,787
Blackwood ...	5	= 37	3	= 49
Junglewood ...	184	= 3,269	337	= 8,118

and the outturn of clean timber was :—

	1887-88.		1888-89.	
Teak logs ...	...14,790 c. ft.	16,390	23,857 c. ft.	25,188
Reconverted from stock ...	1,600 ,,		1,331 ,,	
Blackwood ...	...	23	...	14
Junglewood ...	...	1,347	...	2,191
Sleepers ...	...	1,306	...	1,604

102. The receipts at the mills amounted to Rs. 47,942 and the expenditure to Rs. 15,199. In 1887-88 the receipts were Rs. 33,077 and the expenditure Rs. 11,159.

103. The increase in the outturn of teak and junglewood, as well as the increase in receipts and expenditure, was owing to a large order from the Southern Marátha Spinning and Weaving Company at Hubli, and to one from the Kolhápur-State for sleepers and scantlings for the Kolhápur-Railway.

104. The permission of Government was obtained during the year to sell the saw-machinery, there being no probability of our being able to work it at a profit. The workshops were therefore closed in June last and the machinery was advertised for sale. As yet no portion of it has been disposed of.

105. In their last review of forest administration in this Presidency the Government of India expressed a wish to have a more detailed description of the modes of exploitation adopted. In Chapter IV. of last year's report, I described the agency employed in exploiting the forests and to some extent the mode of exploitation. The methods employed are jardinage for seedling-forests or other timber-forests, and clean cuttings for firewood-forests. As far as possible, the method of equal areas is being introduced in firewood-forests, but it is not possible to cut over equal areas annually in the case of forests which have to supply a certain quantity of material, such as those which supply the Southern Marátha Railway with fuel. The more eastern forests, which consist cheifly of small and more or less thorny scrub, and some of the better descriptions of forest, too, are exploited on the permit-system, and the people cut and fetch out the wood for sale on payment of a small fee of one anna or less per head-load. This system is no doubt a bad one for the forests, but it is difficult to deprive the people engaged in the trade of a means of livelihood to which they have always been accustomed. Blocks are opened and closed periodically for the exercise of the privilege, but it is quite impossible to protect other parts of the forest traversed by the wood-cutters, or to prevent the cutting of green wood, or the manufacturing of dead-wood. Whenever firewood-cuttings on the principle of clean-cuttings can be advantageously made, people who remove wood by head-loads are obliged to take them from such cuttings.

CHAPTER V.

FINANCIAL RESULTS.

106. The details of the year's transactions are shown in Forms Nos. 58—62.

Year.	Receipts.	Charges.	Surplus or Net Revenue.
	Rs.	Rs.	Rs.
1887-88	14,34,650	7,46,260	6,88,390
1888-89	12,73,554	6,75,601	5,97,953

107. The decrease is due to a smaller quantity of fuel and sleepers having been supplied to the Southern Marátha Railway Company.

108. The result is an apparent decrease of net revenue of Rs. 90,437, but the real decrease amounts to only Rs. 27,385, because the outstandings of the past year exceed those of the previous year by Rs. 63,052.

109. The cause of this sudden increase of outstandings is not apparent. It occurs chiefly in the Northern Division of Kánara, and the Divisional Officer has been asked to explain his reasons for allowing so large a sum to remain on the books.

110. The following shows the revenue and outstandings at the end of the year:—

Year.	Amount realized.	Balance due to the Department at the end of the year.
	Rs.	Rs.
1887-88	14,34,650	1,36,433
1888-89	12,73,564	1,99,485

111. The following statement shows the receipts and charges for 1887-88 and 1888-89 under each main head:—

Heads of Revenue and Charges.	1887-88.	1888-89.	Increase.	Decrease.
RECEIPTS.	Rs.	Rs.	Rs.	Rs.
I.—Timber and other produce removed from forests by Government agency	10,35,438	8,78,590	...	1,56,848
II.—Timber and other produce removed from the forests by consumers or purchasers	3,84,299	3,87,412	3,113	...
III.—Confiscated, drift and waif-wood ...	8,419	1,561	...	6,858
IV.—Revenue from forests not managed by Government	222	66	...	156
V.—Miscellaneous	6,272	5,925	...	347
Total ...	14,34,650	12,73,554	3,113	1,64,209

Year.	1887-88.	1888-89.	Increase.	Decrease.
CHARGES.	Rs.	Rs.	Rs.	Rs.
A.—Conservancy and Works.				
I.—Timber and other produce removed by Government agency	4,22,999	3,34,836	...	88,163
II.—Timber, &c., removed by consumers or purchasers...	8,249	7,038	...	1,211
III.—Confiscated, drift and waif-wood ...	131	49	...	82
V.—Rent of leased forest and payments to share-holders in forests managed by Government	10,948	9,476	...	1,472
VI.—Live-stock, stores, tools and plant	2,144	1,998	...	146
VII.—Communications and buildings ...	5,291	6,740	1,449	...
VIII.—Demarcation, improvement and extension of forests	45,285	61,191	15,906	...
IX.—Miscellaneous	1,407	1,126	...	281
Total A ...	4,96,454	4,22,454	17,355	91,355
B.—Establishment.				
I.—Salaries	2,01,965	2,05,222	3,257	...
II.—Travelling allowances	35,123	33,170	...	1,953
III.—Contingencies	12,718	14,755	2,037	...
Total B ...	2,49,806	2,53,147	5,294	1,953
Total Charges, A and B ...	7,46,260	6,75,601	22,649	93,308

RECEIPTS.

112. The decrease against I. occurs under "*a* timber," Rs. 1,02,113, which is ascribable to the cessation of demand for sleepers by the Southern Marátha Railway Company, and under "*b* Firewood," Rs. 37,321, due to a falling-off in fuel supplied to the Railway owing to difficulties of transport. There was also a decrease of Rs. 7,974 and Rs. 9,522 under "*d* Sandalwood" and "*e* Grass and other minor produce," respectively. A quantity of sandalwood was not sold during the year, as reasonable prices were not obtained. The falling-off under *e* was due to the myrobolan-crop in Belgaum being slightly smaller than last year's and to part of the sale-money of the Kánara-crop having been credited in the accounts of 1889-90.

113. Head II. shows an increase of Rs. 3,113, which is met with as follows :—Rs. 2,675, 6,349, 4,352 and 3,257 were in excess of the previous year's receipts on account of "Timber," "Bámbus," "Grazing" and "Minor produce" respectively. The increase was due (1) to better prices obtained for wood in Kolába, (2) to an increased demand for bámbus, (3) to improvement in the collection of grazing fees, and (4) to sale of the right to remove *tarwad*-bark. On the other hand, "*I. b.*, firewood," shows a decrease of Rs. 13,520, and this is owing to curtailment of operations in Kolába.

114. The decrease appearing under head III. is due to the fact that, in 1887-88, certain sums realized by the sale of confiscated wood were credited to that head, but in 1888-89 sums similarly realized came under "*I. a.*"

EXPENDITURE.

A.—Conservancy and Works.

115. The decrease under head I. (Rs. 88,163), is owing to a corresponding decrease under the several items of receipts. That under II. (Rs. 1,211) is due

to charges on account of certain temporary establishments, formerly debited to this head, having been transferred to "B. *I. c*," and under V (Rs. 1,472) to smaller payments to Khots in Kolába.

116. The increase under VII (Rs. 1,449) and under VIII. (Rs. 15,906) is mainly owing to charges for the construction of forest watch-houses and the Sirsi Divisional Forest Office; for the topographical survey; for forest organization; and for specially protecting certain jungles from fire.

B.—ESTABLISHMENT.

117. The general increase under B., amounting to Rs. 3,341, is owing to the promotion of a 1st grade Assistant-Conservator to the 4th grade of Deputy-Conservator; to certain charges on account of temporary establishments debited to "*I. c.*"; and to charges on account of forest subordinates' uniform.

118. The following shows the value, calculated at seigniorage rates, of the forest produce granted free :—

No.	Collectorate.	1887-88.	1888-89.
		Rs. a. p.	Rs. a. p.
1	Kánara	18,796 12 8	15,225 10 9
2	Belgaum	1,151 8 7	130 7 5
3	Dhárwár	1,163 12 0	.....
4	Bijápur	.....	.....
5	Kolába	1,007 0 0	94 0 0
6	Ratnágiri	.....	.....
	Total ...	22,119 1 3	15,450 2 2

CHAPTER VI.

GENERAL REMARKS.

FINANCIAL PROSPECTS.

119. The slight fall in the net revenue of the Circle,—amounting to Rs. 27,385, if the difference of the outstanding balances be taken into account,—is not likely to continue. There are signs of increased activity in the wood-market; even the last Kárwár-sales have gone off well, and the results of a rough estimate of the sustained yield of the forests of the Northern Division of Kánara warrant our raising the outturn of teak for the Haliyál-depôt from about 120,000 cubic feet to about 200,000.

120. In addition to this possible increase in the outturn, an increasing demand for junglewood generally is observable, and a better demand for *heddi* is springing up for export to the coast-towns, probably for use as fishing-stakes. The falling-off in the yield of fuel is, as I have already explained, owing to the difficulties encountered in the transport of fuel to the railway. Bámbus and grazing are also sources of increasing revenue: in fact the yield under every head is expanding, and an increase of a lákh of net revenue may be confidently looked forward to in the course of the next two years, provided efficient means are taken for the development of the resources of the forest. In order to effect this object, it will, in the first place, be necessary to construct a tramway (not necessarily a railway on the mètre-gauge, as a 20-inch tram worked by bullocks may possibly be more economical) from Nágargáli, or from Haliyál, or Alnáwar, to Pótóli, a distance of 21 miles for the Nágargáli or Haliyál-route, and of 28 for the Alnáwar-line. Secondly, about 10 miles of tram will be required for the working of the fuel to be supplied to the Southern Marátha Railway, unless the Company undertakes the work itself.

ESTABLISHMENTS.

121. The number of officers on the superior establishment is only just sufficient to meet the requirements of the Circle, if none take leave. I think that three new trained Assistants should now be posted to the Circle. An officer is not competent to hold charge of an important division until he has been three years in the country, so that one joining now might not be really fit to take the place of an officer going on leave for several years, and, in the mean time, there is nobody to take the latter's place. The following statement shows the number of officers in the Circle, the leave which is due to them, and the number of years since they took furlough :—

Name of Officer.	Date of last return from furlough.	Pensionable service, years in round numbers.	Furlough earned, months in round numbers.	Remarks.
J. L. L. MacGregor ...	October 1883 ...	18	30	One-fourth active service, less 19 months' furlough taken.
G. A. Hight...	May 1886 ...	17	16	One-fourth active service, less 28 months' furlough taken.
G. K. Betham	November 1879 ...	20	20	One-ninth active service, less 6 months' furlough taken.
W. A. Talbot	May 1887	13	21	One-fourth active service, less 14 months' furlough taken.
W. R. Woodrow	.....	11	33	One-fourth active service. No furlough taken.
H. Murray	.....	7	21	Do. do.
T. R. D. Bell	.....	5	15	Do. do.
R. P. Ryan	.....	...	...	6 years' service. No leave taken.
E. G. Oliver	.....	...	...	2 years' service. No leave taken.

FREE GRANTS.

122. It appears from the 18th and 19th paragraphs of his review of my last administration report, that the Commissioner, S. D., misunderstood the meaning of my remarks in respect to the issue of free grants of wood. My object was, in reality, to facilitate the issue of timber to rayats when only required in small quantities, as is generally the case. No mention was made in the report regarding the mode of granting *firewood* free, and I did not suggest any alteration in the present regulations in regard to that commodity. I think this is clear from my remarks in paragraphs 116—120 of that report.

123. What I objected to was the abuses caused by allowing people to help themselves to *timber* without previous sanction. I did not wish it to be inferred from what I wrote (and I do not understand how the inference was possible) that I advocated a curtailment of privileges, but that their exercise should be regulated (without any real hardship to the people concerned) in such a manner that less loss should accrue to the State, and sylviculture, and organization receive that degree of consideration which the due maintenance of the forests appeared to me to demand.

HEALTH, &c., OF OFFICERS AND MEN.

124. The general health of the officers was fair, but Messrs. Bell and Oliver, and all those engaged in organization under them, suffered much from fever, and both the officers named were attacked by dysentery.

125. In the subordinate ranks, fever is always epidemic during the working-season, and probably 25 per cent. of the guards are always incapacitated for work at that time of the year.

126. I am greatly pleased to be able to report favourably on the work of the superior officers serving in the Southern Circle, with the exception of that of Mr. H. Mitra, Sub-Assistant Conservator, who evinced no interest in his work and whose conduct was not satisfactory.

127. The divisional officers have specially brought to my notice the good work done by the following officers :—

Mr. Sátárávála	...	... Acting Sub-Assistant.
Mr. Babaji Jotiba	...	... Forester.
Mr. Ganpat Rege	...	... Ranger.
Mr. Gopal Swamirao	...	... Forester.
Mr. Mahableshvar Nagapa		... Forester.

ITINERARY.

128. On 1st April my camp was at Nágargáli in the Belgaum Division, where I saw the fuel-cuttings for the railway.

129. On the 6th I proceeded to Hemádge, Talewádi, Anmód, and Jagalbet in the Northern Division of Kánara, where I arrived on the 25th and met the Divisional Forest Officer.

130. From Jagalbet, I went to Birchi, Haliyál, Máinál, and Belgaum, where I arrived on the 21st May.

131. On the 17th November, I left Belgaum for Bádámi, where I met the Divisional Officer of Bijápur and inspected with him a portion of the area in the Bádámi and Bágalkot-Tálukas, which it is proposed to take up for "fuel and fodder reserves". On the 8th December, I reached Dámbal in Northern Dhárwár, and proceeded *viâ* Sortur, Lakshmeshvar and Sávanúr to Dundshi, where Christmas was spent with the Divisional Officer, Dhárwár. On the 4th January, I moved Camp to Sanvalli, and to Pálá on the 9th.

132. On the 12th, I left the Central Division of Kánara and entered the Southern Division proceeding down the Ghâts *viâ* Yekambi, Sirsi, Sampkhand, Devimani, Kátgál and Chandawar to Honávar in the Honávar Táluka, inspecting on the way certain areas proposed for reserves by Mr. Wingate. On the 27th I left Honávar for Kumta and Sántgál, inspecting on the way the areas in the Kumta-Táluka proposed for reserves by Mr. Wingate, whom I met at Kumta.

133. From Sántgál, I marched up the Nilkund Ghát to Sirsi, where I arrived on the 6th February, and met the Divisional Officer, Southern Division, Kánara.

134. With him, I went to Sóndá and Manchikeri in the Sirsi-Táluka where I inspected areas proposed for reserves by Mr. Wingate, proceeding on the 20th to Yellápur in the Central Division of Kánara. After inspecting the teak-forests about Ganeshgudi, I moved on to Bomanhalli and Virnóli, where I met Mr. Bell, Assistant Conservator for organization, on the 8th March.

135. From Virnóli I marched to Lónda, and took train for Bombay where I arrived on the 19th.

136. From Bombay, I went to Uran and Alibág, where I met the Divisional Officer, returning to Bombay on the 30th March, where I remained until the end of the month.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

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LIST OF STATEMENTS ACCOMPANYING THE FOREST ADMINISTRATION REPORT OF THE CONSERVATOR OF FORESTS, SOUTHERN CIRCLE, FOR 1888-89.

A.	Statement showing the progress of the Forest Demarcation and Settlement work up to 1st April 1889.
Form No. 49	Area of Reserved Forests, 1888-89.
„ 49A.	Area of Protected Forests, 1888-89.
„ 50	Prosecution for breaches of Forest Rules during 1888-89.
„ 51	Area of Forest tracts protected from fire during the dry season of 1889.
„ 52	Area of Plantations, 1887-88.
„ 53	Trees felled by Government agency during the year 1888-89 (selection fellings).
„ 54	Outturn of timber and firewood during 1888-89.
„ 55	Outturn of minor produce, 1888-89.
„ 56	Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1888-89.
„ 57	Abstract showing the value of timber and other produce at sale depôts for the year 1888-89.
„ 57A.	Abstract showing the value of dead-stock for the year 1888-89.
„ 58	Summary of revenue and expenditure of the different divisions during the year 1888-89.
„ 59	Account current for the year 1888-89.
„ 60	Revenue received and outstandings on account of revenue during 1888-89.
„ 61	Outstandings and liabilities on account of contractors and disbursers for 1888-89.
„ 62	Financial Results of the year 1888-89.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Statement showing the progress of Forest Demarcation and Settlement work up to the 1st April 1889.

Name of Collectorate.	Class of Forests.	At the commencement of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.		Areas settled during the year. Under Chapter II of the Forest Act.		Areas settled during the year. Under Chapter XIV of the Act.		Area of Reserved Forests alienated under Section 26.		Area of Protected Forests disforested under Government orders.		At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.		Remarks.
		Sq. miles	Acres.	Sq. miles	Acres.	Sq. miles	Acres.	Sq. miles	Acres.	Sq. miles	Acres.	Sq. miles	Acres.	
Kánara	Reserved ...	214	439	...	...	...	...	...	...	...	...	214	439	
	Protected ...	2,508	321	...	...	...	...	...	...	...	...	2,508	321	
Belgaum	Reserved ...	307	$523\frac{7}{10}$	307	$523\frac{7}{10}$	...	...	...	...	...	...	...	...	
Bijápur	Reserved ...	155	$75\frac{33}{40}$	...	...	...	...	...	...	...	...	155	$75\frac{33}{40}$	
	Protected ...	89	409	...	...	...	...	...	...	...	...	89	409	
Kolába	Reserved ...	140	$259\frac{3}{10}$	...	...	...	...	...	$\frac{7}{10}$	...	...	140	$258\frac{3}{5}$	
	Protected ...	37	$90\frac{19}{40}$	...	...	...	...	...	...	...	$9\frac{21}{40}$	37	$80\frac{19}{20}$	
Ratnágiri	Reserved ...	20	$8\frac{3}{10}$	...	...	...	...	...	$47\frac{7}{10}$	...	...	19	$600\frac{3}{5}$	
Total ...	Reserved ...	838	$26\frac{1}{8}$	307	$523\frac{7}{10}$	...	...	...	$48\frac{3}{8}$	...	...	530	$94\frac{1}{40}$	
	Protected ...	2,635	$180\frac{19}{40}$	...	...	...	...	...	...	...	$9\frac{21}{40}$	2,635	$170\frac{19}{20}$	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 49.

Forest Department, Bombay, Southern Circle.

Area of Reserved Forests, 1888-89.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1888.		Added during the year.	Excluded or transferred to other Heads.	Area on 1st March 1889.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
1. Northern Division of Kánara.	Kánara ...	Haliyál and Kárwár ...	298,437	466	...	...	298,437	466		
2. Central Division of Kánara.	Do. ...	Mundgod and Ankola ...	117,359	184	...	...	117,359	184		
3. Southern Division of Kánara.	Do. ...	Sirsi	21,771	34	...	...	21,771	34		
4. Belgaum ...	Belgaum ...	Khánápur, Belgaum, Sampgaon, Gokák, Chikodi and Athni.	314,980½	492	1,599⅕	...	316,579 7/10	495	No. 7425 of 9th November 1889.	
5. Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Hángal, Bankápur, Kod, Gadag, Ron, Nargund, Hubli and Ránebennur.	109,850 3/40	172	...	...	109,850 3/40	172		
6. Bijápur ...	Bijápur ...	Bádámi, Hungund, Bijápur, Bágevádi, Muddebihál and Indi.	99,275 33/40	155	...	...	99,275 33/40	155		
7. Kolába ...	Kolába ...	Alíbág, Panvel, Pen, Roha, Mahád and Mángaon.	188,151 13/40	294	...	7/10	188,150⅝	294	No. 1111 of 11th February 1889.	
8. Ratnágiri ...	Ratnágiri ...	Dápoli, Khed, Rájápur, Málvan, Chiplún and Sangameshvar.	12,808 3/10	20	...	47 7/10	12,760⅗	20	No. 4395 of 4th July 1889.	
		Total ...	1,162,633	1,817	1,599⅕	48⅖	1,164,183 33/40	1,820		

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 49A.

Forest Department, Bombay, Southern Circle.

Area of Protected Forests, 1888-89.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1888.		Added during the year.	Excluded or transferred to other heads.	Area on 1st March 1889.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
1. Northern Division of Kánara.	Kánara ...	Supa	462,944	723	...	...	462,944	723	.....	
2. Central Division of Kánara,	Do. ...	Yellápur, Mundgod, Kumta and Ankola.	568,209	888	...	...	568,209	888	.....	
3. Southern Division of Kánara.	Do. ...	Sirsi, Siddápur, Honávar and Bhatkal.	802,438	1,254	...	...	802,438	1,254	.....	
4. Belgaum ...	Belgaum ...	Belgaum, Chikodi, Gokák and Parasgad.	126,123¾	197	...	111 37/40	126,011 33/40	197	No. 754 of 28th January 1889.	
5. Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Bankápur, Kod, Háugal, Gadag, Ránebennur, Karajgi and Hubli.	166,659	260	...	...	166,659	260	.....	
6. Bijápur ...	Bijápur ...	Bágalkot, Hungund, Bijápur, Bágevádi and Indi.	364	1	...	...	364	1	.....	
7. Kolába ...	Kolába ...	Alíbág, Panvel, Pen, Roha, Mahád, Mángaon and Nágothna.	56,940 21/40	89	...	14 21/40	56,926¼	89	No. 571 of 22nd January 1889, and No. 1911 of 11th March 1889.	
		Total ...	2,183,678 21/40	3,412	...	126 9/20	2,183,552 3/40	3,412		

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

ANNUAL FORM No. 50.

Forest Department, Bombay, Southern Circle.

Prosecutions for breaches of Forest Rules during 1888-89.

Forest Division and Civil District.	Cases pending from 1887-88.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to Forest by fire.	Unauthorized felling or appropriation of Wood and minor Forest Produce.	Grazing without Permission or in Tracts in which Grazing is prohibited.	Other Offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Kánara District.														
Northern Division of Kánara ...	...	...	16	...	...	16	16	11	19	2	2	13	21	3
Central Division of do. ...	...	2	7	...	4	13	13	5	16	3	6	8	22	5
Southern Division of do. ...	...	...	55	...	...	55	55	9	12	9	16	18	28	37
Belgaum District.														
Belgaum	...	1	12	...	...	13	13	11	15	1	5	12	20	1
Dhárwár District.														
Dhárwár	...	...	4	1	1	6	6	5	12	1	8	6	20	...
Bijápur District.														
Bijápur	1	...	13	...	...	13	14	8	18	3	8	11	26	3
Kolába District.														
Kolába	5	1	32	...	20	53	58	45	234	9	24	54	258	4
Ratnágiri District.														
Ratnágiri	...	...	2	2	3	7	7	4	7	3	3	7	10	...
Total ...	6	4	141	3	28	176	182	98	333	31	72	129	405	53

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 51.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Forest Tracts protected from Fire during the Dry Season, 1889, to accompany Report for 1888-89.

Division.	Forest Tracts.	Years in which protection commenced.	Area actually protected up to 15th June 1888.	During the Dry Season of 1889.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs. a. p.	
1. Northern Division of Kánara.	Bomanhalli, Kulgi, Bamane, Bhagvati, Tattigeri, Dandeli, Vincholi, Kegdole, Gutti, Amga, Jamga, Pansoli, Virnoli, Kansirda, Poteli, Mandurli, Berampali, Maulinga and Barchi.	1887-88 ...	62,377	153,628	35,607	118,021	679 5 0	
	Barchi, Singatgeri and Bomanhalli Plantations.	.....	504	504	...	504		
	Kumbeli-Gund	1888-89 ...	...	115,000	55,000	60,000	390 2 0	
	Gottegalli and Virgi	.....	...	12,000	400	11,600	93 0 0	
	Sulgeri, Mardi and Kadra Plantations.	1887-88 ...	577	577	...	577	190 0 0	
		.....	63,458	281,709	91,007	190,702	1,352 7 0	
2. Central Division of Kánara.	Kirwatti, Kolikeri, Madnur, Kalsur, Heggapur, Hutkhand, Hosalli, Kanchinhalli, Telgeri, Somanhalli, Gotgali, Lalguli, Nagarkan, Kanigeri and Jogadmane.	1888-89 ...	...	99,061	19,200	79,861	365 13 0	
	Ramanguli, Kattinhakal, Sunksal, Heggar, Hebbul, Kowlali, Ekiguli, Sakalben, Guli, Lakegüli, Kendige, Malani, Kotebhavi, Nelur, Berde, Bogribail, Adlur, Agsur, Achvi, Dongri, Hillur, Gundbala, Moralli, Andle, Balale and Kenkshivpur.	1888-89 ...	...	99,595	71	99,524	201 6 10	
	Arsengeri, Majgeri, Bachanki, Nyasergi, Kundargi, Sanvalli, Bopalgundi, Bapulgutti, Chigutti, Kanvi-Katur, Alalli, Mavkop, Voralgi, Pala, Ingalki, Mudsal, Basapur, Kallikop, Harganhalli, Tattihalli, Balehalli, Gunjavati, Mainhalli, Yerebail, Mulgankop, Mundgod, Pur, Singanhalli, Hulihond, Atangi, Kargankop, Ajihalli, Salgaon, Hirehalli, Katur, Magadi, Hudlekop, Badrapur, Borugadde, Kodambi, Kadabgeri, Gotgundi, Kop, Malgi, Sidapur, Gangsur, Naginkeri, Jengeri, Hoskop, Andebail, Bekode and Jalgeri.	1888-89 ...	...	48,616	825	47,791	442 3 6	
		.....	...	247,272	20,096	227,176	1,009 7 4	
3. Southern Division of Kánara.	Forest Reserves in the Sirsi Range.	1887-88 ...	3,037	20,614	...	20,614	173 8 0	
4. Belgaum ...	Nandi and Sundi	1886-87 ...	1,075	4,800	...	4,800	84 10 6	
	Katgali	1887-88 ...						
	Hajgoli and Kalasgade	1888-89 ...	...	2,780	...	2,780	56 12 0	
	Manturgi	1884-85 ...	1,991	2,960	355	2,605	134 0 0	
	Savargali, Nagargali and Potoli ...	1886-87 ...						
	Satnali	1887-88 ...						
	Posekop, Sulegali, Londe and Gunji.	1888-89 ...	...	2,379	550	1,829	107 11 6	
	Biranholi	1883-84 ...	2,985	7,425	110	7,315	36 5 6	
	Mavnur and Rustumpur	1885-86 ...						
	Daddi	1886-87 ...						
	Katabali	1888-89 ...	...	3,000	...	3,000	14 13 0	
	Konur, Degaon, Tawag and Gokak.	1887-88 ...	6,116	...	...	...	.....	
	Deshnur, Suldhal and Hanbarhatti.	1888-89 ...	...	11,877	200	11,677	37 14 0	
		.....	12,167	35,221	1,215	34,006	472 2 6	
5. Dhárwár ...	Dhárwár	1888-89 ...	...	10,441	4,320	6,121	60 12 0	
	Kalghatgi	.....	...	7,185	350	6,835	122 2 6	
	Bankápur	.....	...	3,617	1,280	2,337	76 7 6	
	Kod	.....	...	8,052	...	8,052	.....	
	Gadag	.....	...	6,400	...	6,400	33 0 0	
		.....	...	35,695	5,950	29,745	292 6 0	
6. Kolába... ...	Pen	1888-89 ...	...	4,381	...	4,381	57 8 0	
	Nágothna	.....	...	6,147	...	6,147	44 8 0	
	Roha...	.....	...	6,298	312	5,986	92 0 0	
	Mángaon	.....	...	344	...	344	9 0 0	
	Panvel	.....	...	700	...	700	11 4 0	
		.....	...	17,870	312	17,558	214 4 0	
	Grand Total ...	.....	78,662	638,381	118,580	519,801	3,514 2 10	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Plantations, 1888-89.

Divisions.	Name of Plantation.	Area in Acres. On 1st April 1888.	Added during the year.	Excluded during the year.	Area on 31st March 1889.	Receipts. Of the year. Rs. a. p.	Charges. Of the year. Rs. a. p.	Remarks.
	Regular Plantations.							
Northern Division of Kánara.	Kadra	357	...	...	357	1 9 9	289 14 9	
	Mardi	110	...	...	110	.....	85 8 9	
	Sulgeri	110	...	...	110	414 0 0	452 6 0	
	Kárwár	118	5	...	123	8 12 0	.....	
	Bingi...	20	...	...	20	.....	.....	
	Arge...	9	11	...	20	.....	810 0 10	
	Barchi	221	....	..	221	.....	147 8 0	
	Singatgeri	83	...	...	83	.....	92 0 6	
	Bomanhalli	200	...	...	200	.....	.....	
Central Division of Kánara.	Devarbail teak plantation .	15	...	...	15	61 14 0	19 12 0	
	Arbail do. ...	5	...	...	5	.....	.....	
Southern Division of Kánara.	Kasarcode	298	...	...	298	10 4 0	2,268 15 11	
Belgaum.	Kalasgade	13	...	...	13	0 12 6	.....	
	Linganmat	16	...	...	16	.....	.....	
	Deshnur	150	...	...	150	.....	.....	
Bijápur	Anantpur	90	Gunthás 5	...	90-5	.....	65 0 0	
	Mamdápur	168	...	...	168	.....	.....	
	Shivpur	12	...	...	12	.....	.....	
Kolába	Warsoli	10	...	...	10	38 8 6	.....	
	Ramdharni	50	...	...	50	.....	.....	
	Rájwádi	12	...	...	12	.....	.....	
	Total Regular Plantations .	2,067	16-5	...	2,083-5	535 12 9	4,231 2 9	
	Cultural Operations.							
Central Division of Kánara.	Sahasarawali	12	...	...	12	.....	.....	
	Yellápur	26	...	...	26	.....	54 7 0	
	Harwáda	1	...	...	1	11 4 0	.....	
Southern Division of Kánara.	Banawasi	27	...	..	27	.....	.....	
	Anegundi	7	....	...	7	.....	.....	
	Kalkatti	2	...	...	2	.....	.....	
	Alalli			Not known.				
Belgaum	3 villages kumri in Belgaum.	21	...	...	21	.....	.....	
	17 do. Khánápur.	90	...	...	90	.....	.....	
	Nagargali	¼	...	...	¼	.....	39 5 0	
Dhárwár	Holtikota	34	...	...	34	.. ...	.....	
	Salkinkop	152	...	...	152	140 0 0	.....	
	Gongdikop	28	...	...	28	.....	.....	
	Saptapur	35	...	...	35	52 0 0	.....	
	Kelgeri	21	...	...	21	71 0 0	5 1 0	
	Kalghatgi	399	...	...	399	.....	4 4 3	
	Ichanhalli	86	...	...	86	.....	.....	
	Devikop	29	...	...	29	.....	11 3 3	
Bijápur	Mamdápur	*216	...	...	216	.....	.....	* The area put down last year as 194 acres is owing to a mistake in the divisional return for 1887-88 now rectified.
	Kaládgi	195	...	..	195	.....	.....	
	Jacknur	9	...	...	9	.....	5 0 0	
	Khánápur	...	½	...	½	.....	9 0 0	
	Nágrál	...	½	...	½	... ..	5 0 0	
Kolába	Alíbág	5	...	...	5	4 10 6	11 3 0	
	Sáttád	81	...	...	81	.....	.....	
Ratnágiri	Dápoli	110	51	42	119	.....	.....	
	Khed...	17	...	...	17	.....	.....	
	Chiplun	66	43	36	73	.....	.....	
	Sangameshvar	122	23	...	145	.....	.....	
	Málvan	21	9	...	30	.....	.....	
	Total Cultural Operations ...	1,812¼	127	78	1,861¼	278 14 6	144 7 6	
	Grand Total ...	3,879-10	143-5	78	3,944-15	814 11 3	4,375 10 3	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 53.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Trees felled by Government Agency during the year 1888-89.
(Selection Fellings.)

Division.	TREES FELLED. Description.	Number.	REMARKS.
Northern Division of Kánara.	Teakwood	764	
	Blackwood	6	
	Junglewood	25	
	Total ...	795	
Central Division of Kánara.	Teakwood	1,760	
	Blackwood	38	
	Junglewood	603	
	Total ...	2,401	
Southern Division of Kánara.	Sandalwood	320	
Belgaum	Teakwood	132	
Dhárwár	Teakwood	3,672	
	Junglewood	445	
	Sandalwood	243	
	Total ...	4,360	
	Grand Total ...	8,008	

ABSTRACT OF THE CIRCLE.

Teakwood	6,328	
Blackwood	44	
Junglewood	1,073	
Sandalwood	563	
Total ...	8,008	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 54.

Forest Department, Bombay, Southern Circle.

Outturn of Timber and Firewood during the year 1888-89.

Division.	Description of Materials.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by Government Agency.	Purchasers.	Free Grants.	Right-holders.	
Northern Division of Kánara.	Teakwood	141,214	...	...	141,214	140,938	276	...	...	
	Do. pieces	...	316	...	316	316	...	...	...	
	Do. poles	...	15,499	1,056	16,555	16,555	...	...	...	
	Do. round pieces for sleepers	8,397	...	...	8,397	8,397	...	...	...	
	Blackwood	9,849	8	...	9,857	9,497	360	...	...	
	Do. pieces	...	60	...	60	51	9	...	...	
	Do. poles	...	5	...	5	5	...	...	...	
	Sandalwood trees	153	...	...	153	153	...	...	...	
	Janglewood	98,430	20	...	98,450	25,251	51,572	21,627	...	
	Do. pieces	93	386	...	479	479	...	...	...	
	Do. rafters	1,496	...	...	1,496	...	200	1,296	...	
	Do. poles	...	5	...	5	5	...	...	...	
	Do. stakes	...	635	...	635	635	...	...	...	
	Firewood ... Cart-loads.	...	1,659	...	1,659	...	1,659	...	...	
	Do. ... Cubic-feet.	...	655,199	...	655,199	255,199	400,000	...	...	
	Do. ... Head-loads.	...	31,087	...	31,087	518	30,569	...	...	
	Do. ... ... Tons.	...	8,693	...	8,693	388	8,305	...	...	
	Baini Trees	...	1	...	1	...	1	...	...	
	Karvi .. ... Head-loads.	...	2,480	...	2,480	...	2,480	...	...	
	Savri and Moi trees	...	242	...	242	...	242	...	...	
	Total ...	259,632	716,295	1,056	976,983	458,387	495,673	22,923	...	
Central Division of Kánara.	Teakwood	81,324	15,211	...	96,535	91,418	4,976	141	...	
	Blackwood	1,405	6,312	...	7,717	1,928	5,789	...	...	
	Junglewood	26,632	69,476	...	96,108	23,376	47,670	25,062	...	
	Teak poles	...	...	6,473	6,473	6,473	...	...	...	
	Junglewood poles	..	...	1,934	1,934	184	1,022	728	...	
	Teak round pieces	8,182	...	...	8,182	8,182	...	...	...	
	Do. adzed sleepers	...	...	90	90	90	...	...	...	
	Do pieces	...	7	...	7	7	...	...	...	
	Blackwood pieces	...	4	...	4	4	...	...	...	
	Junglewood do.	...	7	555	562	7	555	...	...	
	Jiráitiwood do.	...	...	1,358	1,358	8	1,350	...	...	
	Do. stacks	..	...	44	44	44	...	...	...	
	Teak plants	...	...	100	100	100	...	...	...	
	Thinnings from teak trees Stacks ..	...	...	13	13	13	...	...	...	
	Sandalwood ... Khandis.	...	16	...	16	16	...	...	...	
	Do. pieces	...	...	1,411	1,411	1,410	1	...	...	
	Do. roots	...	...	757	757	757	...	...	...	
	Do. trees	...	36	...	36	36	...	...	...	
	Firewood ... Cubic feet.	...	844,594	...	844,594	...	844,594	...	...	
	Do. ... Cart-loads.	..	...	1,741	1,741	...	1,572	169	...	
	Do. ... Head-loads.	...	...	71,403	71,403	...	69,828	1,575	...	
	Do. ... Stacks.	...	...	539	539	539	...	...	...	
	Charcoal ... Maunds.	...	367	...	367	..	367	...	...	
	Total ...	117,543	936,030	86,418	1,139,991	134,592	977,724	27,675	...	
Southern Division of Kánara.	Sandalwood ... Khandis.	58	...	...	58	58	...	...	...	
	Teakwood	12,827	...	...	12,827	10,990	1,837	...	...	
	Blackwood	672	...	...	672	551	121	...	...	
	Junglewood	34,152	88,885	...	123,037	10,152	88,885	24,000	...	
	Do. poles	...	...	390	390	...	275	115	...	
	Teak sleeper pieces	...	740	...	740	740	...	...	...	
	Firewood ... Cart-loads.	...	...	3,229	3,229	...	3,229	...	...	
	Do. ... Head-loads.	...	...	53,934	53,934	...	53,934	...	...	
	Do. ... Maunds.	...	...	2,276	2,276	...	2,276	..	...	
	Charcoal ... ,,	...	77	...	77	...	73	4	...	
	Total ...	47,709	89,702	59,829	197,240	22,491	150,630	24,119	...	

FORM No. 54—*continued.*

Division.	Description of Materials.	Outturn in Cubic Feet.							Remarks.
		Selection Fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government Agency.	Purchasers.	Free Grants.	Right-holders.	
Belgaum.	Teak trees ... ... No.	1,045	...	...	1,045	1,045	...	...	...	
	Do. poles from branches... ...	310	...	...	310	310	...	...	...	
	Teak poles	132	4,702	...	4,834	3,801	1,033	...	...	
	Blackwood logs Cubic-feet.	..	350	...	350	...	350	...	...	
	Do. poles ,,	...	63	...	63	...	63	...	...	
	Janglewood logs ,,	...	1,040	...	1,040	942	98	...	...	
	Do. poles .. No.	...	9,319	816	10,135	8,177	1,520	438	...	
	Teak pieces	937	...	...	937	937	...	...	...	
	Teak round pieces	117	...	...	117	117	...	...	...	
	Do. slabs	75	...	...	75	75	...	...	...	
	Sandalwood pieces	...	24	1	25	...	25	...	...	
	Firewood stacks	...	13,589	...	13,589	13,589	...	...	...	There are no right-holders except in regard to free grazing and ráb, the quantity and value of which cannot be assessed.
	Do. ... Cart-loads.	...	1,374	1,946	3,320	1,374	1,946	...	...	
	Do. ... Head-loads.	...	2,545	125,083	127,628	...	127,628	...	...	
	Do. ...Bullock-loads.	...	...	536	536	...	536	...	...	
	Do. .. Cubic feet.	...	1,657,094	...	1,657,094	1,657,094	...	...	...	
	Lighting fuel... ,,	...	131,740	...	131,740	131,740	...	...	...	
	Bábul trees ... ... No.	...	...	212	212	...	212	...	...	
	Karvi ... Cart-loads.	..	...	173	173	...	173	...	...	
	Toddy trees ... ... No.	...	...	18	18	...	18	...	...	
	Thorns ... Cart-loads.	...	...	1,782	1,782	...	1,782	...	...	
	Do. ... Head-loads.	....	...	54	54	...	54	...	.	
	Charcoal ... Maunds.	...	...	14,326	14,326	...	14,326	...	...	
	Total ...	2,616	1,821,840	144,947	1,969,403	1,819,201	149,764	438	...	
Dhárwár.	Teak rafters	3,555	3,772	...	7,327	7,185	142	...	...	
	Matti do.	445	157	...	602	601	1	...	...	
	Blackwood do....	...	21	...	21	21	...	...	...	
	Jiráitiwood	155	18,954	...	19,109	18,778	331	...	...	
	Firewood ... Stacks.	...	...	8,764	8,764	...	8,764	...	...	
	Do. ... Cart-loads.	...	...	377	377	...	377	...	...	
	Do. ... Head-loads.	...	...	21,838	21,838	....	21,838	...	..	
	Do. . Animal-loads.	...	...	1,742	1,742	...	1,742	...	...	
	Total ...	4,155	22,904	32,721	59,780	26,585	33,195	...	...	
Bijapur.	Bábul trees	...	...	74	74	..	74	...	...	
	Maswal rafters	...	..	7,265	7,265	...	7,265	...	...	
	Firewood	...	...	155,611	155,611	..	155,611	...	...	
	Total ...	...	..	162,950	162,950	...	162,950	...	...	
Kolába.	Teak trees ... ... No.	...	116,467	...	116,467	15,562	100,905	...	...	
	Firewood ... Khandis.	..	23,000	...	23,000	...	23,000	..	..	
	Total ...	...	139,467	...	139,467	15,562	123,905	...	...	
Ratnágiri	Teak poles, &c. ... No.	...	...	24,592	24,592	23,937	655	...	...	
	Firewood ... Khandis.	...	...	550	550	473	77	..	...	
	Total ...	...	...	25,142	25,142	24,410	732	...	...	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 55.

Forest Department, Bombay, Southern Circle.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free-grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Northern Division of Kánara.	Bambus	..	....	3,450,471	39,380 9 8	7,950	35 8 0	..	..	3,458,421	39,416 1 8
	Charcoal .. .. ..Sacks.	..	....	215	13 7 0	..	....	..	..	215	13 7 0
	Bambu Posts	..	....	300	1 14 0	..	....	..	..	300	1 14 0
	Hirda .. .. Khandis	1,901	18,779 15 9	..	....	..	....	..	..	1,901	18,779 15 9
	Shigekai .. .. ,,	..	....	..	978 0 0	..	....	..	..	..	978 0 0
	Honey .. .. ,,	..	....	..	856 2 0	..	....	..	..	..	856 2 0
	Pepper .. .. ,,	..	....	..	16 0 0	..	....	..	..	..	16 0 0
	Cinnamon .. .. ,,	..	....	..	267 10 9	..	....	..	..	..	267 10 9
	Nux Vomica .. ,,	..	....	..	16 0 0	..	....	..	..	..	16 0 0
	Wild Turmeric .. ,,	..	....	..	5 0 0	..	....	..	..	..	5 0 0
	Fruit ,,	..	....	..	7 2 0	..	....	..	..	..	7 2 0
	Fees on Bambus from Medars .	..	....	..	26 4 0	..	....	..	..	..	26 4 0
	Stones .. .. Cubic-feet	..	....	12,050	18 13 3	..	....	..	..	12,050	18 13 3
	Earth .. .. ,,	..	....	7,350	4 9 6	..	....	..	..	7,350	4 9 6
	Do. .. .. Cart-loads.	..	....	4	0 4 0	..	....	..	..	4	0 4 0
	Tapping fees on Baini trees ..	..	....	887	55 7 0	..	....	..	..	887	55 7 0
	Canes .. .. Head-loads	..	....	72	18 0 0	..	....	..	..	72	18 0 0
	Grazing fees	..	....	..	6,837 0 6	..	....	..	..	..	6,837 0 6
	Total ..	..	18,779 15 9	..	48,502 3 8	..	35 8 0	..	..	..	67,317 11 5
Central Division of Kánara.	Solid Male Bambus ..	400	20 0 0	..	....	..	....	..	..	400	20 0 0
	Hirda .. .. Khandis.	366	3,893 4 9	..	....	..	....	..	..	366	3,893 4 9
	Shigekai .. .. ,,	3	70 9 2	..	....	..	....	..	..	3	70 0 2
	Grass .. .. Bundles.	16,585	61 12 3	2,000	1 0 0	..	....	..	..	18,585	62 12 3
	Do.	..	....	..	35 0 0	..	....	..	..	..	35 0 0
	Bambus	..	....	342,240	7,221 6 5	990	9 14 5	..	..	343,230	7,231 4 10
	Sibs	..	....	698,425	6,421 7 0	900	2 4 0	..	..	699,325	6,423 11 0
	Reeds	..	..	10,500	15 10 0	..	....	..	..	10,500	15 10 0
	Bambus on contract	..	....	..	76 8 0	..	....	..	..	..	76 8 0
	Tapping fees on Baini trees ..	..	....	300	24 6 0	..	....	..	..	300	24 6 0
	Grazing fees	..	....	..	6,676 15 1	..	....	..	..	..	6,676 15 1
	Quarry fees	..	....	..	1 0 0	..	....	..	..	..	1 0 0
	Earth .. .. Cart-loads.	..	....	65	4 1 0	..	....	..	..	65	4 1 0
	Canes .. .. Head-loads.	..	....	106	26 12 0	..	....	..	..	106	26 12 0
	Honey	..	....	..	1,660 0 0	..	....	..	..	..	1,660 0 0
	Ramfal & Rampatri. Head-loads.	..	....	..	2,497 8 0	..	....	..	..	..	2,497 8 0
	Pepper .. .. ,, ..	..	....	..	398 5 4	..	....	..	..	..	398 5 4
	Cinnamon .. .. ,, ..	..	....	..	463 5 4	..	....	..	..	..	463 5 4
	Kaju seeds	..	....	..	11 4 0	..	....	..	..	..	11 4 0
	Nux Vomica	..	....	..	25 0 0	..	....	..	..	..	25 0 0
	Mádar betté	..	....	..	35 0 0	..	....	..	..	..	35 0 0
	Catechu	..	....	..	2,259 0 0	..	....	..	..	..	2,259 0 0
	Total ..	..	4,045 10 2	..	27,853 8 2	..	12 2 5	..	..	..	31,911 4 9
Southern Division of Kánara.	Hirda .. .. Khandis.	2,131	21,846 1 9	..	....	..	....	..	..	2,131	21,846 1 9
	Shigekai	5	79 0 10	..	....	..	....	..	..	5	79 0 10
	Bambus (large and Medár) ..	..	....	50,765	555 14 0	500	5 0 0	..	..	51,265	560 14 0
	Do. (thin)	..	....	75,350	203 6 0	650	1 10 0	..	..	76,000	205 0 0
	Grazing fees	..	....	..	8,649 12 7	..	....	..	..	..	8,649 12 7
	Honey	..	....	..	1,430 9 4	..	....	..	..	..	1,430 9 4
	Palm trees	..	....	117	117 0 0	..	....	..	..	117	117 0 0
	Thorns .. .. Cart-loads.	..	....	24	4 4 0	..	....	..	..	24	4 4 0
	Canes .. .. Head-loads.	..	....	353	88 4 0	4	1 0 0	..	..	357	89 4 0
	Rampatri and Cinnamon ..	..	....	..	722 0 0	..	....	..	..	..	722 0 0
	Tapping fees on Baini trees ..	..	....	346	21 10 0	..	....	..	..	346	21 10 0
	Wild Pepper	..	....	..	36 0 0	..	....	..	..	..	36 0 0
	Aleksistu	..	....	..	15 9 5	..	....	..	..	..	15 9 5
	Shige bark .. .. Maunds.	..	....	989	247 6 0	..	....	..	..	989	247 6 0
	Catechu	..	....	..	4,690 0 0	..	....	..	..	..	4,690 0 0
	Hadchari leaves .. Head-loads.	..	....	29	1 10 0	..	....	..	..	29	1 10 0
	Heart of palm	..	....	112	0 10 0	..	....	..	..	112	0 10 0
	Cocoanuts	..	....	..	0 4 0	..	....	..	..	..	0 4 0
	Total ..	..	21,925 2 7	..	16,784 3 5	..	7 10 0	..	..	..	38,717 0 0
Belgaum.	Hirdas .. .. Khandis.	6,608	56,723 8 0	..	....	..	....	..	..	6,608	56,723 8 0
	Canes .. .. Head-loads	..	....	241	15 1 0	..	....	..	..	241	15 1 0
	Bambus	1,500	62 6 0	56,753	1,700 15 6	..	....	..	..	58,253	1,763 5 6
	Do. (Medár)	..	....	64,925	1,298 8 0	..	....	..	..	64,925	1,298 8 0
	Sibs	..	....	376,046	3,625 8 0	800	8 0 0	..	..	376,846	3,633 8 0
	Chives	..	....	62,875	314 6 0	..	....	..	..	62,875	314 6 0
	Grazing fees	..	....	..	15,612 15 3	..	....	..	..	..	15,612 15 3
	Grass	..	....	..	3,882 14 9	..	....	..	..	..	3,882 14 9
	Sale of Toddy trees	..	....	18	9 0 0	..	..	..	..	18	9 0 0
	Tapping fees	..	....	115	7 3 0	..	....	..	..	115	7 3 0
	Stones .. .. Cubic feet.	..	....	202,837	681 3 10	..	....	..	..	2,02,837	681 3 10
	Do. .. Cart-loads.	..	....	10,031	629 14 0	..	....	..	..	10,031	629 14 0
	Do. .. Donkey-loads.	..	....	5,332	82 9 0	..	....	..	..	5,332	82 9 0
	Shigekai .. .. Khandis.	..	....	760	2,914 3 6	..	....	..	..	760	2,914 3 6
	Honey .. .. Maunds.	..	....	251	550 0 0	..	....	..	..	251	550 0 0
	Gum	..	....	362	509 9 5	..	....	..	..	362	509 9 5
	Coffee .. .. Seers.	..	....	6	0 12 6	..	....	..	..	6	0 12 6
	Tamarind fruits .. ,,	..	....	71	28 0 7	..	....	..	..	71	28 0 7
	Cinnamon .. .. ,,	..	....	240	254 1 0	..	....	..	..	240	254 1 0
	Earth .. Donkey-loads.	..	....	1,352	21 2 0	..	....	..	..	1,352	21 2 0
	Do. .. .. Baskets.	..	....	41	0 10 3	..	....	..	..	41	0 10 3
	Bandurgi leaves .. Head-loads.	..	....	310	14 8 6	..	....	..	..	310	14 8 6
	Castor-oil seeds .. Seers.	..	....	12	3 3 0	..	....	..	..	12	3 3 0
	Tarwad bark Bullock-loads	..	....	137	12 13 6	..	....	..	..	137	12 13 6
	Do. .. Cart-loads.	..	....	3	3 0 0	..	....	..	..	3	3 0 0
	Do. .. Head-loads.	..	....	806	71 9 3	..	....	..	..	806	71 9 3
	Total ..	..	56,785 14 0	...	32,303 11 10	..	8 0 0	..	..	..	89,097 9 10

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency		By Purchasers.		By Free-grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Dhárwár	Grass .. .. Pullies.	1,000	1 4 0	11,740	125 0 5	..	....	..	..	12,740	126 4 5
	Do. .. .. Madi.	..	....	..	17 8 0	..	....	..	..	..	17 8 0
	Do. .. .. Thatching.	..	....	..	38 1 3	..	....	..	..	..	38 1 3
	Do. .. Mat, Cart-loads.	..	....	10	1 4 0	..	....	..	..	10	1 4 0
	Do. .. From kurans.	..	....	..	1,394 6 0	..	....	..	..	..	1,394 6 0
	Thorns .. .. Loads.	..	....	1,789	150 8 6	..	....	..	..	1,789	150 8 6
	Stones .. .. Do.	..	..	1,951	140 4 0	..	....	..	..	1,951	140 4 0
	Earth .. .. Do.	..	....	126	5 10 0	..	....	..	..	126	5 10 0
	Manure	..	....	..	3 0 0	..	....	..	..	..	3 0 0
	Royalty for tapping toddy trees.	..	....	742	46 6 0	..	....	..	..	742	46 6 0
	Do. on toddy-tree branches Loads.	..	....	637	62 13 9	..	....	..	..	637	62 13 9
	Do. on Bábul pods	..	....	..	105 0 0	..	....	..	..	..	105 0 0
	Do. on Mango fruits ..	..	....	..	28 11 0	..	....	..	..	..	28 11 0
	Do. on Tamarind do. ..	..	....	..	18 10 7	..	....	..	..	..	18 10 7
	Do. on Karanj do. ..	..	....	..	109 0 0	..	....	..	..	..	109 0 0
	Do. on Jujub do. ..	..	....	..	0 10 0	..	....	..	..	..	0 10 0
	Do. on Marking nuts ..	..	....	..	23 4 0	..	....	..	..	..	23 4 0
	Do. on Honey	..	....	..	167 11 0	..	....	..	..	..	167 11 0
	Gum	..	....	..	13 8 0	..	....	..	..	..	13 8 0
	Karibantan .. .. .. Balli.	..	....	9	0 9 0	..	....	..	..	9	0 9 0
	Total ..	..	1 4 0	..	2,489 5 6	..	....	..	..	..	2,490 9 6
Bijápur.	Earth, stones, &c.	..	....	..	10,683 4 7	..	....	..	..	..	10,683 4 7
Kolába	Hirda, Shigekai, Apta and Temburni leaves	..	....	..	700 0 0	..	....	..	..	..	700 0 0
Ratn á-giri	Hirda .. .. Maunds.	34	38 12 0	..	....	..	....	..	..	34	38 12 0

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 56.

Forest Department, Bombay, Southern Circle.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1888-89.

TIMBER.

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Balance at commencement of the year.				
Northern Division of Kánara. — Teakwood	4,474	127,257		
Do. pieces	3,356	....		
Do. sleepers	5,527	....		
Do. slabs	7,938	....		
Blackwood	27	588		
Do. pieces	1	....		
Junglewood	943	22,172		
			22,266	150,017
Central Division of Kánara. — Teak round pieces	5,683	....		
Do. sleepers	3,163	....		
Do. slabs	23,053	....		
Do. logs	2,494	55,447		
Teakwood	..	19,603		
Do. poles	59	....		
Do. round board	1	....		
Blackwood	..	10		
Do. logs	46	680		
Junglewood	..	12,865		
Do. logs	854	15,297		
Jiráitwood stacks	12	....		
Sitting boards	72	....		
Miscellaneous pieces	..	43		
			35,437	103,745
Southern Division of Kánara. — Teak	434	9,664		
Do. poles	1,059	4,347		
Do. round pieces	530	....		
Do. sleepers	599	....		
Do. slabs	61,694	....		
Blackwood	4	92		
Junglewood	890	17,433		
Do. poles	75	232		
			65,285	31,773
Belgaum Division. — Teak trees	245	2,750		
Do. sleepers	1,492	....		
Do. slabs	1,165	....		
Poles from branches.	1,793	....		
Junglewood poles and logs	2,348	....		
			7,043	2,750
Dhárwár Division. — Teak rafters	6,714	....		
Matti do.	793	....		
Jiráitwood	22,277	....		
Slabs	125	....		
Miscellaneous rafters	120	....		
			30,029	....
Kolába Division. — Teak poles and beams	631	....		
Miscellaneous	126	....		
			757	....
Ratnágiri Division. — Teak pieces	267	....	267	....
Total Balance	..	..	161,084	288,285
Received from the Forests in Depôts.				
Teak trees	1,045	13,476		
Teakwood	7,107	151,928		
Do. round pieces	17,208	....		
Do. do.	..	74		
Do. poles	26,870	2,833		
Poles from branches	310	1,553		
Teak logs	2,022	44,473		
Do. plants	100	....		
Do. top and end pieces	937	1,240		
Do. rafters	7,707	....		
Do. sotas and miscellaneous pieces	23,937	....		
Do. adzed sleepers	90	....		
Blackwood	723	11,926		
Do. pieces	4	....		
Do. poles	5	....		
Junglewood	2,896	54,435		
Do. pieces	7	....		
Do. do.	..	7		
Do. poles	8,177	5,642		
Stacks of thinnings from teak trees.	13	....		
Karimutal pole	1	15		
Matti poles	183	....		
Do. rafters	588	....		
Sissum do.	21	....		
Jiráitwood stacks	44	....		
Do. pieces	19,911	....		
			119,906	287,581

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Removed by purchasers from Depôts.				
Teakwood	10,852	221,934		
Teak trees	1,210	15,148		
Do. round pieces	875	....		
Do. sleepers	27,891	....		
Do. slabs	43,186	....		
Do. poles	28,950	5,153		
Do. adzed sleepers	90	....		
Do. planks	100	....		
Do. pieces	7	....		
Do. round pieces.	..	74		
Teak	..	21,075		
Do. poles from branches	2,103	2,453		
Do. top and end pieces	937	1,240		
Do. rafters	9,779	....		
Do. sotas and miscellaneous poles, &c.	21,743	....		
Stacks of thinnings from teak trees.	13	....		
Blackwood	637	1,876		
Do.	..	9		
Do. pieces	5	....		
Do. poles	5	....		
Junglewood	5,377	67,831		
Do.	..	2,370		
Do. poles	6,922	6,627		
Do. pieces	7	....		
Matti poles	183	....		
Do. rafters	933	....		
Jiráitwood pieces	25,300	....		
Do. stacks	56	....		
Blackwood rafters	19	....		
Karimutal pole	1	15		
Miscellaneous pieces	2	....		
			186,688	345,892
Sold locally.				
Teakwood	..	55		
Do. poles and pieces	23,311	72,810		
Do. sleeper pieces	500	....		
Branches of teak trees felled for sleepers	300	....		
Sawn timber Cart-loads,	1	....		
Blackwood pieces	6	67		
Junglewood poles	73	70		
Do. pieces	128	479		
Do. stacks	636	....		
			21,954	73,481
Converted in Depôts.				
Teak trees	65	854		
Do. round pieces	15,098	....		
Teakwood	..	1,881		
			15,163	2,735
Lost or written off as useless.				
Matti rafters	10	....	10	....
Used by the Department.				
Teakwood	..	167		
Do. poles	36	30		
Do. slabs	201	....		
Blackwood	1	27		
Junglewood	..	917		
Miscellaneous pieces	..	7		
			232	1,148
Transferred to other Sale Depôts.				
Teak round pieces	2,667	....		
Do. sleepers	2,299	....		
Do. slabs	3,246	....		
Do. logs	2,205	47,455		
Junglewood logs	345	8,359		
Blackwood do.	3	50		
Teak rafters	7,608	....		
Matti do.	601	....		
Blackwood do.	21	....		
Jiráiti pieces	18,365	....		
			37,350	55,864
Balance at close of the year.				
Northern Division of Kánara. — Teakwood	4,231	119,635		
Do. round pieces.	4,932	....		
Do. sleepers	3,021	....		
Do. slabs	14,716	....		
Blackwood	31	638		
Junglewood	416	8,641		
			27,347	128,914

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Received from the Forests and sold locally.				
Teakwood	..	55		
Do. poles and pieces	25,731	78,328		
Do. sleeper pieces	500	....		
Branches of teak trees felled for sleepers	300	....		
Sawn timber .. .. Cart-loads	1	....		
Blackwood pieces	6	67		
Junglewood poles	73	70		
Do. pieces	128	479		
Do. stacks	635	....		
			27,374	78,999
Received by conversion in Depôts.				
Teak sleepers	23,018	...		
Do. slabs	20,997	....		
Do. round pieces, 9 feet	14	90		
Do. do. 6 feet	103	520		
Blackwood	..	14		
Junglewood	..	2,191		
Teakwood	..	25,188		
			44,132	28,003
Received by transfer from Sale Depôts.				
Teak round pieces	2,667	....		
Do. sleepers	2,299	....		
Do. slabs	3,246	..		
Do. logs	2,205	47,455		
Junglewood logs	345	8,359		
Blackwood do.	3	50		
Teak rafters	7,608	....		
Matti do.	601	...		
Blackwood rafters	21	....		
Jiráiti pieces	18,355	....		
			37,350	55,864
Total ..	..	....	389,946	738,732

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER—*continued.*				
***Balance at close of the year*—contd.**				
Central Division of Kánara. — Teakwood	..	21,666		
Blackwood	..	15		
Junglewood	..	11,576		
Miscellaneous pieces ..	..	34		
Teak round pieces ..	5,679	.. ..		
Do. sleepers	2,283	....		
Do. slabs	7,946	....		
Do. poles	412	...		
Do. logs ..	1,537	39,236		
Round teak board .	1	....		
Blackwood logs ..	103	1,837		
Junglewood logs ..	1,838	24,903		
Sitting boards .. .	72	....		
			19,371	99,267
Southern Division of Kánara. — Teak	411	7,965		
Blackwood	28	430		
Junglewood	800	13,817		
Teak poles	175	993		
Junglewood poles ..	17	54		
Sleepers	604	....		
Slabs	48,888	....		
Round teak sleeper pieces	310	...		
			51,233	23,259
Belgaum Division. — Teak trees	15	225		
Do. poles	1	4		
Do. slabs	35	...		
Junglewood poles ..	1,313	533		
			1,364	762
Dhárwár Division. — Teak rafters	4,979	....		
Matti do.	410	....		
Blackwood rafters ..	2	....		
Jiráiti pieces ..	16,263	....		
Miscellaneous rafters.	142	....		
			21,796	...
Kolába Division. — Teak poles and pieces.	1,666	7,500		
Miscellaneous	211			
			1,877	7,500
Ratnágiri Division. — Teak poles of different classes ..	1,771	....		
Miscellaneous pieces ..	690	....		
			2,461	.. ..
Total Balances ..	..	....	125,449	259,702
Total ..	..	....	389,946	738,732
FIREWOOD.				
Balance at commencement of the year.				
Northern Division of Kánara. — Firewood .. Tons.	285	.. .		
Charcoal .. Muras.	23	....		
			308	....
Central Division of Kánara. — Firewood .. Stacks.	38	...		
			38	....
Belgaum Division. — Firewood .. Stacks.	11,003	....		
Do.	..	446,675		
			11,003	446,675
Dhárwár Division. — Firewood .. Stacks.	2,269	....		
			2,269	....
Total Balance ..	..	....	13,618	446,675
Received during the year.				
Firewood .. .. .. Tons.	388	.. ..		
Do.	..	255,199		
Do. .. .. Stacks.	25,560	....		
Do. .. .. Head-loads.	3,135	....		
Do. .. .. Cart-loads	1,371	....		
Do. .. .. Khandis.	473	....		
Lighting wood	..	131,740		
Fuel	..	1,657,094		
			30,927	2,044,033
Total ...	..	.. ..	44,545	2,490,708
BAMBUS.				
Balance at commencement of the year	..	...		
Received during the year.				
Solid male	400	....		
Large	500	....		
Small	2,500	....		
			3,400	....
Total ..	..	....	3,400	.. ..

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Removed by purchasers.				
Firewood .. .. .. Tons.	285	....		
Do.	..	255,199		
Do. .. .. Stacks	26,534	....		
Do. .. .. Head-loads.	3,135	....		
Do. .. .. Cart-loads.	1,371	....		
Do. .. Khandis.	473	....		
Lighting wood	..	131,740		
Fuel	..	2,103,769		
			31,798	2,490,708
Lost or written off as useless.				
Firewood stacks	125	..		
			125	....
Balance at close of the year.				
Northern Division of Kánara. — Firewood .. Tons.	388	...		
Charcoal . Muras	23	..		
			411	....
Central Division of Kánara. — Firewood .. Stacks	358	...		
			358	....
Belgaum Division. — Firewood .. Stacks	7,036	....		
			7,036	....
Dhárwár Division. — Firewood .. Stacks	4,817	.. .		
			4,817	....
Total Balance .		..	12,622	.. .
Total ..	..	.. ..	44,545	2,490,708
BAMBUS.				
Removed by purchasers.				
Solid male	400	.		
Large	500	. ..		
Small	1,000	.		
			1,900	...
Balance at close of the year.				
Belgaum Division. — Small	1,500	.. .		
			1,500	....
Total ..	..		3,400	.. .

FORM No. 56—*concluded.*

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.	Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
		K. m. lbs.			SANDALWOOD.		K. m. lbs.		K. m. lbs.
Balance at commencement of the year.				K. m. lbs.	*Removed by purchasers.*				
Southern Division of Kánara. Billets	24	11 6 21			Trees	36	....		
Dhárwár Division. Roots	25	....			Billets	1,202	21 9 14		
Total Balance ..			49	11 6 21	Pieces	1,410	....		
					Roots	782	....		
Received from the Forests in Depôts					Sandalwood	24	42 17 11	3,454	64 6 25
Trees	189	....			*Sold locally.*				
Billets	1,202	21 9 14			Pieces	36	....	36	....
Pieces	1,410	....			*Balance at close of the year.*				
Roots	1,197	....			Northern Division of Kánara. Trees	153	....	153	....
Chips and sawdust	..	3 1 3			Central Division of Kánara. Trees	..	4 16 14	....	4 16 14
Sandalwood	..	73 1 1	3,998	97 11 18	Southern Division of Kánara. Trees	..	36 13 25	....	36 13 25
Received from the Forests and sold locally.					Dhárwár Division. Roots	440	....	440	3 1 3
Pieces	36	....	36	....	Chips and sawdust ..	..	3 1 3		
					Total Balance ...	..	....	593	44 11 14
Total ..	..	....	4,083	108 18 11	Total ..	..	....	4,083	108 18 11
					GRASS AND OTHER MINOR PRODUCE.				
Balance at commencement of the year.					*Removed by purchasers.*				
Northern Division of Kánara. Hirda .. Baskets.	2,017	....	2,017	....	Hirda .. .. .. Baskets.	11,146	....		
					Do. .. .. .. Khandis.	..	8,840 4 7		
Central Division of Kánara. Hirda .. Khandis.	..	135 10 14			Shigekai .. .. .. ,,	..	7 12 7		
Shigekai .. ,,	..	5 18 21			Grass .. .. .. Bundles.	17,585	....	28,731	8,847 16 14
Grass .. Bundles.	165,518	....	165,518	141 9 7	*Used by the Department.*				
Southern Division of Kánara. Hirda .. Khandis.	..	355 14 0	....	355 14 0	Grass .. .. .. Bundles.	51,025	....	51,025	....
Belgaum .. Hirda .. Khandis.	..	104 0 0	....	104 0 0	*Balance at close of the year.*				
Dhárwár .. Grass .. Bundles.	1,000	....	1,000	....	Northern Division of Kánara. Hirda .. Baskets.	12,319	....	12,319	....
Total Balance ..	..	....	168,535	601 3 7	Central Division of Kánara. Hirda .. Khandis.	..	93 2 15		
Received during the year.					Shigekai .. ,,	..	3 8 14		
Hirda .. .. .. Baskets.	21,489½	....			Grass .. Bundles.	147,444	....	147,444	96 11 1
Do. .. .. .. Khandis	..	9,111 0 17			Southern Division of Kánara. Hirda .. Khandis.	..	726 18 16	....	726 18 16
Shigekai .. .. ,,	..	5 2 0			Belgaum .. Hirda .. Khandis.	..	45 19 21	....	45 19 21
Grass .. .. .. Bundles.	49,536	....	71,025½	9,116 2 17	Dhárwár .. Hirda .. Baskets.	41½	....	41½	....
					Tota Balance ..	..	....	159,804½	869 9 10
Total ..	..	....	239,560½	9,717 5 24	Total ..	..	....	239,560½	9,717 5 24

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1888-89.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			TIMBER.						
Northern Division of Kánara.			Rs.			Rs.	Rs.	Rs.	
Teakwood	4,474	127,257	1,96,500	4,231	119,635	1,76,476	.....	20,024	
Blackwood...	27	588	552	31	638	756	204	.....	
Junglewood	943	22,172	20,964	416	8,641	8,667	.....	12,297	
Teak round pieces ...	3,356	...	10,068	4,932	...	9,864	.....	204	
Do. sleepers	5,527	...	11,054	3,021	...	6,042	.....	5,012	
Do. slabs...	7,938	...	800	14,716	...	1,470	670	.....	
Blackwood pieces... ...	1	...	2	...	...	.....	.....	2	
Total ...	...	...	2,39,940			2,03,275	874	37,539	
Central Division of Kánara.									
Logs	3,394	71,424	84,360	2,978	65,976	77,852	.....	6,508	
Teak round pieces ...	5,683	...	28,415	5,679	...	28,395	.....	20	
Do. sleepers	3,163	...	7,580	2,283	...	4,566	.....	3,014	
Do. slabs	23,053	...	2,305	7,946	...	318	.....	1,987	
Do. poles	59	...	177	412	....	765	588	.....	
Sitting boards	72	...	10	72	...	10	.....	.....	
Miscellaneous scantlings...	...	32,321	64,642	...	33,291	66,582	1,940	.....	
Round teak board ...	1	...	0-5-0	1	...	0-5-0	.....	.....	
Jiraitwood stacks... ...	12	...	24	...	...	.....	.....	24	
Total ...	...	...	1,87,513-5-0			1,78,488-5-0	2,528	11,553	
Southern Division of Kánara.									
Teakwood	434	9,664	13,723	411	7,965	10,833	.....	2,890	
Blackwood...	4	92	123	28	430	400	277	.....	
Junglewood	890	17,438	15,345	800	13,817	11,053	.....	4,292	
Teak poles	1,059	4,347	1,845	175	993	397	.....	1,448	
Junglewood poles	75	232	46	17	54	10	.....	36	
Teak round pieces ...	530	...	.....	310	...	.....	.....	.....	
Do. sleepers	599	...	1,198	604	...	1,208	10	.....	
Do. slabs	61,694	...	3,856	48,888	...	1,956	.....	1,900	
Total ...	...	...	36,136			25,857	287	10,566	
Belgaum Division.									
Teak trees	245	2,750	1,700	15	225	135	.....	1,565	
Do. sleepers	1,492	...	3,000	...	...	.....	.....	3,000	
Do. slabs	1,165	...	110	35	...	5-4-0	.....	104-12-0	
Do. poles from branches.	1,793	...	1,500	...	...	.....	.....	1,500	
Do. poles...	...	...	.....	1	4	4	4	.....	
Junglewood logs	450	5,850	2,500	...	...	.....	.....	2,500	
Do. poles... ...	1,898	1,341	220	1,313	533	288-7-0	68-7-0	.....	
Total ...	...	...	9,030			432-11-0	72-7-0	8,669-12-0	
Dhárwár Division.									
Teak rafters	6,714			4,979					
Matti do.	793	...	19,060	410	...	13,000	.....	6,060	
Miscellaneous rafters ...	120			142					
Blackwood rafters ...	...	...	.....	2					
Jirait pieces	22,277	...	14,850	16,263	...	10,000	.....	4,850	
Slabs	125	...	40	...	...	.....	.....	40	
Total...	...	...	33,950			23,000	.....	10,950	
Kolába Division.									
Teak poles and miscellaneous pieces	757	...	125	1,877	7,500	750	625	.....	
Ratnágiri Division.									
Teak poles and pieces ...	267	...	18-4-0	2,461	...	575	556-12-0	.....	
Total Timber ...	...	...	5,06,712-9-0			4,32,378	4,943-3-0	79,277-12-0	
Northern Division of Kánara.			FIREWOOD.						
Firewood ... ... Tons.	283	...	1,520	388	...	2,440	920	.....	
Charcoal ... ...Murás.	23	...	6	23	...	6	.....	.....	
Total... ...	...	...	1,526			2,446	920	.....	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			FIREWOOD—*continued.*						
Central Division of Kánara.			Rs.			Rs.	Rs.	Rs.	
Firewood... ...Stacks.	38	...	24	358	...	264	240	.....	
Belgaum Division.									
Firewood ... ...Stacks.	11,003	...	11,000	7,036	3,51,800	7,036	.....	3,964	
Fuel...	...	4,46,675	26,800½	...	...	.....	.....	26,800½	
Total ...	...	...	37,800½			7,036	.....	30,764½	
Dhárwár Division.									
Firewood ... ...Stacks.	2,269	...	2,269	4,817	...	4,817	2,548	.....	
Total Firewood ...	...	...	41,619½			14,563	3,708	30,764½	
			BA'MBUS.						
Belgaum Division... ...	...	...	.....	1,500	..	36	36	.....	
Total Bámbus ...	...	...	.....			36	36	.....	
			SANDALWOOD.						
Northern Division of Kánara.									
Trees	...	...	.....	153	...	200	200	.....	
Central Division of Kánara.									
Sandalwood... Khandis.	...	...	.....	...	14-16-14	480	480	.....	
Southern Division of Kánara.									
Sandalwood... Khandis.	...	11-6-21	150	...	36-13-25	2,800	2,650	.....	
Dhárwár Division.									
Roots	25	...	25	440	...	100	75	.....	
Chips and Saw-dust Khandis.	...	...	.....	...	3-1-3	60	60	.....	
Total ...	...	...	25			160	135	.....	
Total Sandalwood ...	...	...	175			3,640	3,465	.....	
			MINOR PRODUCE.						
Northern Division of Kánara.									
Hirda ... ...Khandis.	...	183	2,069	...	73	703	.....	1,366	
Central Division of Kánara.									
Hirda ... ...Khandis.	...	135-10½	1,526	...	93-2-15	950	.....	576	
Shigekai .. ... ,,	...	5-18-21	137	...	3-8-14	60	.....	77	
Grass ... ...Bundles.	165,518	...	595	147,444	...	530	.....	65	
Total ...	...	...	2,258			1,540	.....	718	
Southern Division of Kánara.									
Hirda ... .. Khandis.	...	356	4,027	...	727	7,270	3,243	.....	
Belgaum Division									
Hirda ... ...Khandis.	...	104	962	...	45-19-21	425	....	537	
Dhárwár Division.									
Grass ... Bundles.	1,000	...	5	...	...	.....	.....	5	
Hirda ... Baskets.	...	...	.....	41½	...	30	30	.....	
Total ...	...	...	5			30	30	5	
Total Minor Produce ...	...	...	9,321			9,968	3,273	2,626	
Grand Total ...	...	...	5,57,828-1-0			4,60,585	15,425-3-0	1,12,668-4-0	

Net difference against the year Rs. 97,243-1-0.

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57 A.

FOREST DEPARTMENT, BOMBAY SOUTHERN, CIRCLE.

Abstract showing the Value of Live and Dead Stock for the year 1888-89.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at the close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
Direction.							
Office tent, 13′ + 13′ (new)	1	450	1	450	...	...	
Do. do. (old)	1	450	1	450	...	...	
Tools, plant and office furniture	...	250	...	250	...	...	
Total ...	—	1,150	...	1,150	...	...	
Northern Division of Kánara.							
Forest bungalow at Haliyál	1	2,700	1	2,700	...	...	
Range Forest Office at do.	1	900	1	900	...	...	
Forest Nákás ... —	10	9,016*	12	9,815	799	...	* In last year's statement this was Rs. 9,011.
Forest bungalow at Kadra	1	8,100	1	8,100	...	...	
Two houses at Kadra	2†	...	...	...	...	...	† Petty huts of no use; hence let to tumble down.
Kodibag Depôt house	1	4,960	1	4,960	...	...	
Hill tent...	1	350	1	350	...	..	
Tools, plant and office furniture	...	2,721‡	...	2,794	73	...	‡ In last year's statement this was Rs. 2,726.
Total ..	...	28,747	...	29,619	872	...	
Central Division of Kánara.							
Forest bungalows at Yellápur	2	3,050	2	3,050	...	...	
Workshop at do.	1	114	1	114	...	...	
Rest-house at Kolikeri	1	908	1	908	...	...	
Náka houses	10	2,951	11	3,351	400	...	
Old Range Office at Yellápur...	1	250	1	250	...	...	
Rest-house at Ramanguli	1	150	1	150	...	...	
Tent	1	350	1	350	..	...	
Tools, plant and office furniture	...	5,116§	...	5,126	10	...	§ In last year's statement this was Rs. 7,128, including the value of live stock, which is shown separately in this statement.
Buffaloes and bullocks	44	1,809	39	1,393	...	416	
Total ..	...	14,698	...	14,692	410	416	
Kánara Saw Mills.							
Engine, portable, 12 H.-P.	2		2				
Anvils ... . — ...	2		2				
Small circular saw benches	2		2				
Crabwinch	2		2				
Saw frame, horizontal, with 16 old saws ...	1		1				
Forges, portable	1		1				
Quern	1	45,240	1	40,716	...	4,524	
Hauling machine	1		1				
Lathe	1		1				
Rack, circular	1		1				
Saw-sharpening machines	2		2				
Corrugated roof-shed	1		1				
Vice	1		1				
Engine, portable, 12 H.-P.	1		1				
Bench, cross-cutting	1	11,064	1	9,958	...	1,106	
Saw-sharpening machine	1		1				
Vertical saw frame, with 12 new and 24 old saws.	1	3,750	1	3,375	...	375	
Engine, portable, 12 H.-P.	1	4,400	1	3,960	...	440	
Benches, small circular saws	2	1,388‖	2	1,249	...	139	‖ In last year's statement this was Rs. 105.
Anvils	2	58	2	52	...	6	
Plumber blocks	6	112	...	...	...	112	
Intermediate shaft	1	83	1	75	...	8	
Other stores and furniture	...	6,163¶	...	5,547	...	616	¶ In last year's statement this was Rs. 6,152.
Total ...	...	72,258	...	64,932	...	7,326	

FORM No. 57 A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at the close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
Southern Division of Kánara.							
Office building at Sirsi	...	...	1	950	950	...	
Forest Nákás	17	6,221	18	6,521	300	...	
Office tent	1	350	1	350	...	...	
Tools, plant and office furniture	...	2,952*	...	3,068	116	...	* In last year's statement this was Rs. 3,184.
Total ...	...	9,523	...	10,889	1,366	...	
Belgaum Division.							
Tent	1	300	1	300	...	...	
Rest-house	1	2,500	1	2,500	...	...	
Nákás	14	5,950†	15	6,120	170	...	† In last year's statement this was Rs. 6,050.
Tools, plant and office furniture	...	2,745‡	...	2,789	44	...	‡ In last year's statement this was Rs. 2,790.
Total ...	...	11,495	...	11,709	214	...	
Dhárwár Division.							
Rest-house	1	800	1	800	...	...	
Watch-houses	8	2,400	9	2,700	300	...	
Depôt houses	2	250	2	250	...	...	
Tents	2	380	2	380	...	...	
Tools, plant and office furniture	...	2,790§	...	3,095	305	...	§ In last year's statement this was Rs. 2,454.
Total ...	...	6,620	...	7,225	605	...	
Bijápur Division.							
Office tent	1	150	1	150	...	...	
Tools, plant and office furniture	...	713	...	812	99	...	
Total ...	...	863	...	962	99	...	
Kolába Division.							
Hill tent	1	250	1	250	...	...	
Forest boat with fittings	1	1,278	1	1,278	...	...	
Tools, plant and office furniture	...	574¶	...	574	..	...	¶ In last year's statement this was Rs. 448.
Bullock	1	30	1	30	...	...	
Total ...	...	2,132	...	2,132	...	...	
Ratnágiri Division.							
Office tent	1	200	1	200	...	...	
Tools, plant and office furniture	...	173¶	...	173	...	...	¶ In last year's statement this was Rs. 172.
Total ...	...	373	...	373	...	...	
Grand Total ...	...	1,47,859	...	1,43,683	3,566	7,742	

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1888-89.

Budget Heads.	Direction.	Northern Division of Kánara.	Central Division of Kánara.	Southern Division of Kánara.	Belgaum Division.	Dhárwár Division.	Bijápur Division.	Ratnágirl Division.	Kolába Division.	Total.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	2,83,642 3 0	1,43,906 4 9	33,867 4 3	25,720 15 2	69,006 12 5	.....	9,910 10 9	10,342 4 3	5,78,396 6 7
b. Firewood and charcoal	.....	17,641 3 8	167 10 9	10 4 0	1,57,657 14 6	14,281 8 0	.....	364 10 6	625 14 0	1,90,749 1 5
c. Bambus	.....	.....	20 0 0	.....	62 6 0	.....	.....	.....	.....	82 6 0
d. Sandalwood	.....	.....	1,501 2 10	3,117 4 5	23 13 0	2,267 3 2	0 10 0	.....	.....	6,910 1 5
e. Grass and other minor produce	.....	18,779 15 9	4,117 14 10	21,829 3 10	57,679 14 0	1 4 0	.....	38 12 0	4 6 9	1,02,451 7 2
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—										
a. Timber	.....	13,965 8 11	15,703 2 11	20,737 7 8	3,508 1 2	251 4 6	1,352 13 6	869 10 2	70,078 5 2	1,26,466 6 0
b. Firewood and charcoal	.....	25,832 4 4	16,686 15 0	1,990 7 11	6,347 4 4	852 15 4	9,782 5 7	149 1 6	29,180 0 10	90,821 6 16
c. Bambus	.....	39,408 11 8	13,734 15 5	764 4 0	7,020 11 6	7,827 12 10	.....	.....	12 0 0	68,768 7 5
d. Grazing and fodder grass	.....	6,837 0 6	6,676 15 1	8,649 12 7	19,495 14 0	16,289 11 3	5,696 12 0	310 8 1	1,922 3 10	65,878 13 4
e. Other minor produce	.....	2,243 0 6	7,307 3 0	7,375 2 10	5,865 3 10	1,121 11 7	10,658 4 7	16 14 9	838 15 8	35,476 8 9
III.—Confiscated, Drift, and Waif Wood	.....	106 6 9	73 5 10	730 4 4	51 8 3	10 1 7	15 12 9	73 1 9	500 8 9	1,561 2 0
IV.—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests ...	.....	.....	.....	.....	.....	.....	.....	58 13 11	7 8 0	66 5 11
V.—Miscellaneous—										
a. Fines and forfeitures	.....	120 2 7	26 11 3	219 8 0	386 3 9	4 4 0	152 8 4	251 2 3	1,439 15 0	2,600 7 2
b. Refunds...	306 9 9	197 0 9	242 11 5	36 10 8	13 1 2	123 15 1	15 8 10	.....	194 13 5	1,130 7 1
c. Other sources	.....	350 1 4	485 3 10	128 4 11	231 0 9	720 13 11	14 3 2	6 6 0	258 3 4	2,194 5 3
Total Revenue ...	306 9 9	4,09,123 11 9	2,12,650 4 11	99,455 15 5	2,84,063 15 5	1,12,759 5 8	27,688 14 9	12,049 11 8	1,15,455 3 0	12,73,553 12 4
EXPENDITURE.										
A.—CONSERVANCY AND WORKS.										
I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	1,05,952 12 9	73,309 11 7	8,960 1 8	9,817 6 9	11,065 0 3	.....	1,974 0 9	2,423 2 11	2,13,502 4 8
b. Firewood and charcoal	.....	10,412 0 9	166 15 0	.....	63,605 4 4	3,799 0 3	.....	.....	15 14 0	77,999 2 4
c. Bambus	.....	.....	.....	.....	54 10 0	.....	.....	.....	.....	54 10 0
d. Sandalwood	.....	61 13 0	211 1 7	599 9 10	.....	387 7 10	.....	.....	.....	1,260 0 3
e. Grass and other minor produce	.....	8,988 13 5	1,705 8 2	12,291 2 10	19,013 1 0	5 3 0	.....	16 2 9	.....	42,019 15 2
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	.....	1,087 3 0	686 6 9	1,098 12 4	1,252 7 3	1,957 10 0	70 4 9	.....	885 5 10	7,038 1 11
III.—Confiscated, Drift and Waif Wood	.....	.....	2 3 0	12 14 0	0 8 0	.....	.....	2 9 6	30 12 9	48 15 3
IV.—Revenue from Forests not managed by Government—										
a. Duty on Foreign Timber and other forest produce	.....									
b. Revenue from shared and private forests ...	.....									

V.—Rent of Leased Forests and payments to Share-holders in Forests managed by Government ...	.....	.....	.....	.....	.....	.....	.. ..	117 3 4	9,359 2 1	9,476 5 5
VI.—Live Stock, Stores, Tools and Plant—										
a. Purchase of cattle	.....	.....	232 8 0	.....	.....	.....	.....	.....	.....	232 8 0
b. Feed and keep of cattle	.....	.....	803 9 9	.....	.....	.....	.....	.....	40 0 0	843 9 9
c. Stores, tools, and plant	.....	6 0 0	374 4 0	4 8 0	.....	523 2 9	0 12 0	.....	13 0 9	921 11 6
VII.—Communications and Buildings—										
a. Roads and Bridges	.....	71 11 0	524 13 4	436 5 6	915 0 0	.....	.....	25 2 0	.....	1,972 15 10
b. Buildings	.....	1,012 10 4	1,103 4 5	1,270 0 0	266 7 8	589 14 9	12 0 0	6 10 6	19 4 8	4,280 4 4
c. Other Works	.....	17 4 6	23 6 6	405 13 0	8 3 0	30 7 3	.....	1 4 0	.....	486 6 3
VIII—Demarcation, Improvement and Extension of Forests—										
a. Demarcation	.....	1,969 8 8	2,824 13 0	874 10 0	3 6 0	.....	57 8 6	66 14 0	874 10 7	6,671 6 9
b. Compensation for land and rights	.....	300 0 0	.....	.....	.....	.....	.....	.....	... ..	300 0 0
c. Surveys and working plans	.....	47,220 10 4	.....	.....	.....	84 3 3	.....	.....	.....	7,304 13 7
d. Plantations	.....	863 6 10	125 14 0	2,183 12 8	50 15 0	20 8 6	220 1 0	119 6 0	11 3 0	3,595 3 0
e. Protection from fire	.....	1,248 7 6	702 0 9	150 8 0	654 15 0	292 6 0	51 0 9	... ..	220 6 0	3,319 12 0
f. Other works	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
IX.—Miscellaneous—										
a. Refunds...	.....	.....	.....	.....	.....	.....	.....	.....	.....	... .
b. Law charges	.....	.....	.....	.. ...	.....	.....	.....	295 0 3	.....	295 0 3
c. Other charges	.....	25 15 0	25 10 9	392 8 3	81 7 3	31 8 0	22 12 6	0 15 0	250 0 0	830 12 9
TOTAL A.—Conservancy and Works ...	.....	1,79,238 5 1	82,822 2 7	28,680 10 1	95,723 11 3	18,786 7 10	434 7 6	2,625 4 1	14,142 14 7	4,22,453 15 0
B.—ESTABLISHMENTS.										
I.—Salaries—										
a. Conservators	12,000 0 0	.....	.....	.....	.....	.....	.....	.....	.....	12,000 0 0
b. Superior Officers	.....	19,322 0 4	3,000 0 0	8,525 11 2	6,600 0 0	9,600 0 0	7,992 7 9	1,997 5 10	4,703 8 9	61,741 1 10
c. Subordinate Forest and Depôt Establishments	.....	16,925 14 11	12,150 4 5	11,557 2 10	20,551 13 5	12,410 0 1	7,509 5 9	5,320 1 5	21,295 4 2	1,07,719 15 0
d. Office Establishments...	6,202 13 7	3,330 9 6	3,179 10 7	2,707 5 7	2,419 9 8	1,709 8 1	1,002 6 2	975 0 6	2,201 2 9	23,728 2 5
e. Deputation and special allowances ...	32 8 0	.....	.....	.....	.....	.....	.....	.....	.....	32 8 0
II.—Travelling Allowance—										
a. Conservators	2,413 0 0	.....	.....	.....	.....	.....	.....	.....	.....	2,413 0 0
b. Superior Officers	.....	5,698 13 0	1,296 12 5	2,543 8 0	1,800 0 0	1,648 15 5	1,800 0 0	764 8 3	1,732 10 5	17,285 3 6
c. Subordinate Forest and Depôt Establishments	.....	1,444 6 0	581 8 5	650 9 9	828 14 8	1,087 2 6	256 6 4	471 12 2	958 11 10	6,279 7 8
d. Office Establishments...	1,917 8 5	958 4 6	903 6 5	810 1 3	632 5 10	528 7 4	387 6 8	412 0 0	643 0 4	7,192 8 9
III.—Contingencies—										
a. Stationery	8 3 0	160 13 8	428 9 9	187 13 6	201 6 10	175 0 3	97 13 9	93 2 3	349 10 6	1,702 9 6
b. Carriage of tents and records	678 14 8	477 5 0	688 12 6	203 6 8	173 9 0	187 11 6	67 2 3	96 12 0	160 14 6	2,734 8 1
c. Rents, rates and taxes	400 0 0	20 15 8	240 0 0	.....	376 0 0	109 0 9	111 0 0	310 0 0	36 12 5	1,603 12 10
d. Pay of Police guards	.....	.. ...	.....	.....	.....	.....	.....	.....	.....	.....
e. Official postage...	196 5 6	311 13 6	418 13 0	329 12 0	396 10 0	352 5 6	123 5 6	142 5 6	285 1 0	2,556 7 6
f. Sundries	246 5 7	732 7 9	652 10 9	622 6 8	1,017 1 11	846 6 7	558 5 5	309 9 7	1,172 5 3	6,157 11 6
Total B.—Establishments ...	24,095 10 9	49,383 7 10	23,540 8 3	28,137 13 5	34,997 7 4	28,654 10 0	19,905 11 7	10,892 9 6	33,539 1 11	2,53,147 0 7
Grand Total of Expenditure ...	24,095 10 9	2,28,621 12 11	1,06,362 10 10	56,818 7 6	130,721 2 7	47,441 1 10	20,340 3 1	13,517 13 7	47,682 0 6	6,75,600 15 7

No. $\frac{F}{14,691}$.

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

A. F. COX,
Acting Accountant General.

Bombay, 13th August 1889.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account Current for the year 1888-89.

Dr. *Cr.*

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	... ...	25 1 5	By 1. Refunds and Drawbacks—		
„ VIII. Assessed Taxes—Income Tax—			Refunds Divided Heads—		
Deductions by Government from Salaries and Pensions	.....	2,285 12 11	Forest	.....	1,187 12 2
„ IX. Forest	.....	12,73,553 12 4	„ 11. Forest	.....	6,75,600 15 7
„ XII. Interest—			„ Revenue Deposits—		
Interest on arrears of Revenue	.....	79 11 0	Forest	.....	26,246 12 2
„ Revenue Deposits—			„ Advances Recoverable—		
Forest...	.....	25,159 14 8	Forest Advances	3,52,234 12 6	
„ Advances Recoverable—			Objection Book Advances	692 8 0	
Forest Advances	3,59,392 15 6		Tentage Advances	.....	
Objection Book Advances	919 8 0				3,52,927 4 6
Tentage Advances to Gazetted Officers	220 0 0		„ Cheques and Bills—		
		3,60,532 7 6	Departmental Cheques—		
„ Cheques and Bills—			Forest Cheques cancelled	.....	100 0 0
Departmental Cheques—			„ Forest Remittances—		
Forest Cheques drawn	.....	6,47,995 13 4	Remittances to Treasuries	10,53,386 1 11	
„ Forest Remittances—			Inter-Divisional Transfers	38,487 2 11	
Remittances to Treasuries	3,371 1 3		Inter-Departmental Transfers	2,464 9 2	
Inter-Divisional Transfers	48,241 9 10				10,94,337 14 0
Inter-Departmental Transfers	20,670 9 6		„ Cash Recoveries	.....	6,437 1 2
		72,283 4 7	„ Suspense Accounts	.....	100 0 0
„ Cash Recoveries	.....	6,437 1 2	„ Account between Bombay and Marine—		
„ Supense Accounts	... ..	100 0 0	IV. Items adjustable by Marine—		
„ Account between India and Bombay—			Miscellaneous	.....	3,249 6 4
III. Items adjustable by India—			„ Account between Bombay and Military—Bombay—		
Topographical Survey	.....	15,412 0 0	IV. Items adjustable by Military—		
„ Account between Bombay and Public Works Department (Ordinary Branches)—			Miscellaneous	.....	5,421 3 6
IV. Items adjustable by Public Works Department—			„ Account between Bombay and Public Works Department—Bombay (Ordinary Branches)—		
Payments into Treasuries by Civil Officers on account of Public Works Department	.....	150 0 0	IV. Items adjustable by Public Works Department—		
„ Account between Bombay and Public Works Department (Railway Branches)—			Inter-Departmental Charges	.....	4,928 0 8
Southern Marátha Railway—			„ Account between Bombay and Public Works Department (Railway Branches)—		
IV. Items adjustable by Public Works Department ...	... ..	0 3 2	Southern Marátha Railway—		
			IV. Items adjustable by Public Works Department ...	.....	2,33,197 7 3
			Closing Balance...	.....	281 4 9
Grand Total ..	.....	24,04,015 2 1	Grand Total ...	.....	24,04,015 2 1

No. $\frac{F}{1890}$.

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Code.

Bombay, Accountant General's Office,
13th August 1889.

A. F. COX,
Acting Accountant General.

FORM No. 60.

FORM No. 60.

Forest Department, Bombay, Southern Circle.

Revenue received and Outstandings on account of Revenue during 1888-89.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division of Kanára.	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	85,022 11 4	3,34,919 13 0	4,19,942 8 4	2,83,612 3 0	1,36,300 5 4	
	b. Firewood and charcoal	950 0 0	16,691 3 8	17,641 3 8	17,641 3 8	.....	
	c. Grass and other minor produce ...	.....	18,779 15 9	18,779 15 9	18,779 15 9	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	a. Timber	.....	15,308 0 11	15,308 0 11	13,965 8 11	1,342 8 0	
	b. Firewood and charcoal	.....	29,872 3 4	29,872 3 4	25,832 4 4	4,039 15 0	
	c. Bambus	.....	39,408 11 8	39,408 11 8	39,408 11 8	.....	
	d. Grazing and fodder grass	.....	6,837 0 6	6,837 0 6	6,837 0 6	.....	
	e. Other minor produce	46 2 8	2,355 3 10	2,401 6 6	2,243 0 6	158 6 0	
	III.—Confiscated, drift and waif wood ...	.....	106 6 9	106 6 9	106 6 9	.....	
	Total, Northern Division of Kánara ...	86,018 14 0	4,64,278 11 5	5,50,297 9 5	4,08,456 7 1	1,41,841 2 4	
Central Division of Kánara.	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	16,859 6 10	1,56,831 2 2	1,73,690 9 0	1,45,906 4 9	27,784 4 3	
	b. Firewood and charcoal	141 6 0	26 4 9	167 10 9	167 10 9	.....	
	c. Bambus	.....	20 0 0	20 0 0	20 0 0	.....	
	d. Sandalwood	60 12 0	1,478 10 11	1,539 6 10	1,501 2 10	38 4 0	
	e. Grass and other minor produce ...	7 4 7	4,124 10 2	4,131 14 9	4,117 14 10	13 15 11	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	a. Timber	.....	17,415 12 1	17,415 12 1	15,703 2 11	1,712 9 2	
	b. Firewood and charcoal	250 0 1	16,436 14 11	16,686 15 0	16,686 15 0	.....	
	c. Bambus	.....	13,734 15 5	13,734 15 5	13,734 15 5	.....	
	d. Grazing and fodder grass	.....	6,676 15 1	6,676 15 1	6,676 15 1	.....	
	e. Other minor produce	26 0 0	7,441 9 8	7,467 9 8	7,307 3 0	160 6 8	
	III.—Confiscated, drift and waif wood— ...	.....	73 5 10	73 5 10	73 5 10	.....	
	Total Central Division of Kánara ...	17,344 13 6	2,24,260 4 11	2,41,605 2 5	2,11,895 10 5	29,709 8 0	

Southern Division of Kánara.	*I.—Timber and other produce removed from the forests by Government agency—*															
	a. Timber	13,063	3	0	38,088	11	10	51,151	14	10	33,867	4	3	17,284	10	7
	b. Firewood	.....			10	4	0	10	4	0	10	4	0	.....		
	d. Sandalwood	.....			3,117	4	5	3,117	4	5	3,117	4	5	.....		
	e. Grass and other minor produce ...	.....			21,829	3	10	21,829	3	10	21,829	3	10	.....		
	II.—Timber and other produce removed from the forests by consumers or purchasers—															
	a. Timber	35	13	8	22,109	11	1	22,145	8	9	20,737	7	8	1,408	1	1
	b. Firewood	27	7	3	2,012	15	11	2,040	7	2	1,990	7	11	49	15	3
	c. Bambus	.....			766	12	0	766	12	0	764	4	0	2	8	0
	d. Grazing and fodder grass	.....			8,649	12	7	8,649	12	7	8,649	12	7	.....		
	e Other Minor produce	141	5	4	7,491	9	6	7,632	14	10	7,375	2	10	257	12	0
	III.—Confiscated, drift and waif wood... ...	.....			730	4	4	730	4	4	730	4	4	.....		
	Total, Southern Division of Kánara ...	13,267	13	3	1,04,806	9	6	1,18,074	6	9	99,071	7	10	19,002	14	11
Belgaum ...	*I.—Timber and other produce removed from the forests by Government agency—*															
	a. Timber	1,427	0	0	24,382	11	2	25,809	11	2	25,720	15	2	88	12	0
	b. Firewood	.....			1,57,657	14	6	1,57,657	14	6	1,57,657	14	6	.....		
	c. Bambus	.....			62	6	0	62	6	0	62	6	0	.....		
	d. Sandalwood	.....			23	13	0	23	13	0	23	13	0	.....		
	e. Grass and other minor produce ...	.....			57,679	14	0	57,679	14	0	57,679	14	0	.....		
	II.—Timber and other produce removed from the forests by consumers or purchasers—															
	a. Timber	.....			3,508	1	2	3,508	1	2	3,508	1	2	.....		
	b. Firewood	5	2	0	6,342	2	4	6,347	4	4	6,347	4	4	.....		
	c. Bambus	.....			7,020	11	6	7,020	11	6	7,020	11	6	.....		
	d. Grazing and fodder grass	.....			19,495	14	0	19,495	14	0	19,495	14	0	.....		
	e. Other minor produce	.....			5,865	3	10	5,865	3	10	5,865	3	10	.....		
	III.—Confiscated, drift and waif wood... ...	.....			51	8	3	51	8	3	51	8	3	.....		
	Total, Belgaum ..	1,432	2	0	2,82,090	3	9	2,83,522	5	9	2,83,433	9	9	88	12	0
Dhárwár ...	*I.—Timber and other produce removed from the forests by Government agency—*															
	a. Timber	12,630	0	0	63,094	5	11	75,724	5	11	69,006	12	5	6,717	9	6
	b. Firewood	9	8	0	14,272	0	0	14,281	8	0	14,281	8	0	.....		
	d. Sandalwood	.....			2,267	3	2	2,267	3	2	2,267	3	2	.....		
	e. Grass and other minor produce ...	.....			1	4	0	1	4	0	1	4	0	.....		
	II.—Timber and other produce removed from the forests by consumers or purchasers—															
	a. Timber	.....			251	4	6	251	4	6	251	4	6	.....		
	b. Firewood	.....			852	15	4	852	15	4	852	15	4	.....		
	c. Bambus	.....			7,827	12	10	7,827	12	10	7,827	12	10	.....		
	d. Grazing and fodder grass	.....			16,289	11	3	16,289	11	3	16,289	11	3	.....		
	e. Other minor produce	.....			1,121	11	7	1,121	11	7	1,121	11	7	.....		
	III.—Confiscated, drift and waif wood... ...	.....			10	1	7	10	1	7	10	1	7	.....		
	Total, Dhárwár ...	12,639	8	0	1,05,988	6	2	1,18,627	14	2	1,11,910	4	8	6,717	9	6

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Bijápur ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	d. Sandalwood	.....	0 10 0	0 10 0	0 10 0	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	a. Timber	.....	1,352 13 6	1,352 13 6	1,352 13 6	.....	
	b. Firewood	.....	9,782 5 7	9,782 5 7	9,782 5 7	.....	
	d. Grazing and fodder grass	.....	5,696 12 0	5,696 12 0	5,696 12 0	.....	
	e. Other minor produce	.....	10,658 4 7	10,658 4 7	10,658 4 7	.....	
	III.—Confiscated, drift and waif wood— ...	.....	15 12 9	15 12 9	15 12 9	.....	
	Total, Bijápur ...	.....	27,506 10 5	27,506 10 5	27,506 10 5	.....	
Kolába ...	*I.—Timber and other produce removed from the forests by Government agency—*						
	a. Timber	.....	10,342 4 3	10,342 4 3	10,342 4 3	.....	
	b. Firewood	.....	625 14 0	625 14 0	625 14 0	.....	
	e. Grass and other minor produce ...	.....	4 6 9	4 6 9	4 6 9	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	a. Timber	4,830 0 0	65,248 5 2	70,078 5 2	70,078 5 2	.....	
	b. Firewood	900 0 0	30,405 0 10	31,305 0 10	29,180 0 10	2,125 0 0	
	c. Bambus	.....	12 0 0	12 0 0	12 0 0	.....	
	d. Grazing and fodder grass	.....	1,922 3 10	1,922 3 10	1,922 3 10	.....	
	e. Other minor produce	.....	888 15 8	888 15 8	888 15 8	.....	
	III.—Confiscated, drift and waif wood— ...	.....	500 8 9	500 8 9	500 8 9	.....	
	Total, Kolába ...	5,730 0 0	1,09,949 11 3	1,15,679 11 3	1,13,554 11 3	2,125 0 0	

Ratnágiri ...	*I.—Timber and other produce removed from the forests by Government agency—*					
	a. Timber	.....	9,910 10 9	9,910 10 9	9,910 10 9	.....
	b. Firewood	.....	364 10 6	364 10 6	364 10 6	.....
	e. Grass and other minor produce ...	.....	38 12 0	38 12 0	38 12 0	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—					
	a. Timber	.....	869 10 2	869 10 2	869 10 2	.....
	b. Firewood	.....	149 1 6	149 1 6	149 1 6	.....
	d. Grazing and fodder grass	.....	310 8 1	310 8 1	310 8 1	.....
	e. Other minor produce	.....	16 14 9	16 14 9	16 14 9	.....
	III.—Confiscated, drift and waif wood ...	.....	73 1 9	73 1 9	73 1 9	.....
	Total, Ratnágiri ...	.....	11,733 5 6	11,733 5 6	11,733 5 6	.....
Total, Southern Circle ...	*I.—Timber and other produce removed from the forests by Government agency—*					
	a. Timber	1,29,002 5 2	6,37,569 11 1	7,66,572 0 3	5,78,396 6 7	1,88,175 9 8
	b. Firewood and charcoal	1,100 14 0	1,89,648 3 5	1,90,749 1 5	1,90,749 1 5	.....
	c. Bambus	.....	82 6 0	82 6 0	82 6 0	.....
	d. Sandalwood	60 12 0	6,887 9 5	6,948 5 5	6,910 1 5	38 4 0
	e. Grass and other minor produce ...	7 4 7	1,02,458 2 6	1,02,465 7 1	1,02,451 7 2	13 15 11
	II.—Timber and other produce removed from the forests by consumers or purchasers—					
	a. Timber	4,865 13 8	1,26,063 10 7	1,30,929 8 3	1,26,466 6 0	4,463 2 3
	b. Firewood and charcoal	1,182 9 4	95,853 11 9	97,036 5 1	90,821 6 10	6,214 14 3
	c. Bambus	.....	68,770 15 5	68,770 15 5	68,768 7 5	2 8 0
	d. Grazing and fodder grass	.....	65,878 13 4	65,878 13 4	65,878 13 4	.....
	e. Other minor produce	213 8 0	35,839 9 5	36,053 1 5	35,476 8 9	576 8 8
	III.—Confiscated, drift and waif wood ...	.....	1,561 2 0	1,561 2 0	1,561 2 0	.....
	Grand Total ...	1,36,433 2 9	13,30,613 14 11	14,67,047 1 8	12,67,562 2 11	1,99,484 14 9

Conservator's Office, Southern Circle:
Dated Belgaum, 16th November 1889.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1888-89.

Division.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.		REMARKS.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Belgaum	.....	56,371 1 4	56,371 1 4	6,797 7 1	49,584 4 6	56,381 11 7	10 10 3	.....	
Bijápur	.....	179 2 0	179 2 0	.....	179 2 0	179 2 0	.....	.....	
Dhárwár	.....	1,250 0 0	1,250 0 0	50 0 0	1,450 0 0	1,500 0 0	250 0 0	.....	
Northern Division of Kánara ...	.....	18,746 10 4	18,746 10 4	293 13 9	18,824 12 7	19,118 10 4	372 0 0	.....	
Central Division of do. ...	.....	10,775 0 0	10,775 0 0	.....	10,775 0 0	10,775 0 0	.....	.....	
Southern Division of do. ...	.....	101 0 0	101 0 0	.....	101 0 0	101 0 0	.....	.....	
Ratnágiri	.....	1,850 0 0	1,850 0 0	.....	1,850 0 0	1,850 0 0	.....	.....	
Total Contractors ...	.....	89,272 13 8	89,272 13 8	7,141 4 10	82,764 3 1	89,905 7 11	632 10 3	.....	
Disbursers.									
Belgaum	.....	50,435 14 8	50,435 14 8	1,833 11 11	50,306 8 0	52,140 3 11	1,704 5 3	.....	
Bijápur	.....	8,170 11 11	8,170 11 11	45 4 9	8,125 7 2	8,170 11 11	.....	.....	
Dhárwár	.....	20,329 10 6	20,329 10 6	.....	20,329 10 6	20,329 10 6	.....	.....	
Northern Division of Kánara ...	.....	89,497 8 8	89,497 8 8	3 3 9	89,494 4 11	89,497 8 8	.....	.....	
Central Division of do. ...	.....	29,590 9 1	29,590 9 1	1,115 13 6	29,703 4 2	30,819 1 8	1,228 8 7	.....	
Southern Division of do. ...	.....	46,224 2 6	46,224 2 6	3,576 7 8	45,529 14 8	49,106 6 4	2,882 3 10	.....	
Kolába	.....	25,383 3 8	25,383 3 8	4 11 0	25,504 12 0	25,509 7 0	126 3 4	.....	
Ratnágiri	.....	488 4 10	488 4 10	11 8 10	476 12 0	488 4 10	.....	.....	
Total Disbursers ...	.....	2,70,120 1 10	2,70,120 1 10	6,590 13 5	2,69,470 9 5	2,76,061 6 10	5,941 5 0	.....	
Grand Total ...	.....	3,59,392 15 6	3,59,392 15 6	13,732 2 3	3,52,234 12 6	3,65,966 14 9	6,573 15 3	.....	

No. $\frac{F}{14892}$.

Forwarded to the Conservator of Forests, Southern Circle, with reference to para. 238 of the Forest Department Code.

Bombay, Accountant General's Office,
13th August 1889.

A. F. COX,
Acting Accountant General.

ANNUAL FORM No. 62.

Forest Department, Bombay, Southern Circle.

Financial results of the year 1888-89.

Division.	Timber and other produce removed from the Forests by Government agency.		Other Revenue.		Formation, protection and improvement of Forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	...	...	307	24,096	...	307	24,096
Northern Division of Kánara	3,20,170	1,50,938	88,954	3,171	74,513	4,09,124	2,28,622
Central Division of do. ...	1,51,786	88,422	60,864	7,148	10,793	2,12,650	1,06,363
Southern Division of do. ...	59,122	29,602	40,334	15,560	11,656	99,456	56,818
Belgaum	2,41,145	1,10,387	42,919	10,479	9,855	2,84,064	1,30,721
Dhárwár	85,557	34,749	27,202	9,267	3,425	1,12,759	47,441
Bijápur	1	...	27,688	5,082	15,258	27,689	20,340
Kolába	10,972	23,031	1,04,483	12,364	12,287	1,15,455	47,682
Ratnágiri	10,387	7,439	1,662	413	5,665	12,049	13,517
Total ...	8,79,140	4,44,568	3,94,413	87,580	1,43,452	12,73,553	6,75,600

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle,
Dated Belgaum, 16th November 1889.

No. 105 of 1890.

REVENUE DEPARTMENT.

Kánara Districts,
Camp Kárwár, 15th January 1890.

MEMORANDUM.

The accompanying report on the forest administration of the Southern Circle for the year 1888-89 is submitted to Government with the following remarks.

2. Paragraph 4.—Government orders have been issued on the Forest Settlement Report of 21 villages of the Honávar Táluka (*vide* Government Resolution No. 8772, dated 19th November 1889.

3 Paragraph 9.—The issue of Government orders on the Forest Settlement Reports of Pen, Nágothna, &c., apparently awaits the settlement of the question of dálhi cultivation. It is most desirable that these reports should be disposed of as early as possible.

4. Paragraph 10.—The reports on the Bijápur settlements were necessarily, and with the approval of Government, returned for further consideration, in connection with the Divisional Forest Officer's proposals respecting "fuel and fodder reserves." The latter, which had been in no way checked, amounted to proposals for the inclusion in forest of much larger areas than was contemplated in the Forest Settlement Officer's reports. No maps were, in most cases, forthcoming, and lands in inám villages, as well as inám lands in Government villages, were embraced in the Divisional Forest Officer's scheme. It was, in the circumstances, impossible to approve, or even to form an opinion on the Settlement Officer's reports.

5. Paragraph 17.—A special officer has been appointed to complete the forest settlement work in the Belgaum and Dhárwár Districts (*vide* Government Resolution No. 6066, dated 17th August 1889).

6. Paragraphs 32 to 40.—It is satisfactory to note that while the number of prosecutions increased, the percentage of unsuccessful cases has fallen. In the undersigned's opinion some explanation should have been forthcoming of the decrease in cases compounded in the Bijápur District from 310 to 89. In all other districts, except North Kánara, there was an increase, and only 14 cases were taken into Court in Bijápur.

7. Paragraphs 41 to 54.—The orders passed by Government in Government Resolution No. 1942, dated 24th March 1888, are practically inoperative in a large portion of the Southern Circle, owing to the smallness of the free grazing area. It seems desirable to introduce some analogous penalty, and the Acting Commissioner recommends that the suggestion offered by the Conservator last year—to levy double grazing fees during the following season, when the incendiaries are not detected—be tried as an experiment in the forests of Kánara, Dhárwár and Belgaum. If the villagers generally are to blame for the actual fires, it is more than probable that they could largely assist in detecting the offenders.

8. Paragraphs 55 to 58.—The extension of the successful measures adopted in Belgaum for the collection of grazing fees to Kánara and Dhárwár is likely to lead to further growth of revenue from that source.

9. Paragraphs 59 to 65.—The orders contained in Government Resolution No. 6487, dated 3rd September 1889, will remove any substantial ground of complaint arising from the grazing of sheep and goats in forests. The Acting Commissioner is under the impression that it has, since the close of the year, been prohibited in Belgaum as well as in Bijápur.

10. Paragraphs 66 to 73.—No very marked progress seems to have been made in the important branch of Artificial Regeneration, but the Conservator's orders, as detailed in paragraph 72, seem likely to lead to very useful results.

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11. Paragraphs 85 to 96.—There was a large falling off in the demand for teak prices for sleepers and for running fuel for the Southern Marátha Railway Company.

12. Paragraphs 106 to 118.—There is a decrease in both revenue and expenditure, in the former, mainly owing to the causes mentioned in paragraph 11. The Conservator has called for an explanation of the excess over last year (Rs. 63,052) in amount of outstandings.

13. Paragraphs 119 to 120.—The main want seems to be increased facilities for transport. To provide these, the Conservator advocates the construction of a light railway or tramway from Nágargáli or from Haliyál, or Alnáwar to Pótóli, a distance of 21 or 28 miles according to the route adopted, and of about 10 miles of tram for supply of fuel to the Southern Marátha Railway. The former of these two proposals is already under the consideration of Government, and the latter has been referred to the Railway Company, with a view to ascertaining whether they are prepared to take the work in hand themselves.

G. F. M. GRANT,
Acting Commissioner, S. D.

No. 4422 of 1889-90.

From

The CONSERVATOR of FORESTS,
Southern Circle;

To

The CHIEF SECRETARY to GOVERNMENT,
Revenue Department,
Bombay.

Yellápur, Kánára Districts,
28th January 1890.

Sir,

I have the honour to furnish the report called for in Government Resolution No. 8144 of 26th October 1889, regarding the state of reproduction in the Southern Circle.

I.—Moist-zone, rainfall 40—300 inches, comprising all Kánara, Kolába, West Dhárwár and Western Belgaum.

2. Excepting in the evergreen jungles of the Ghâts, reproduction *by seed* is poor throughout the Circle. I attribute the badness of the reproduction principally to fires, and in a less degree to grazing and damage done to young growth by graziers and others. During the rains great numbers of seedlings come up which are killed by fires. Large quantities are also eaten by cattle which feed on nothing but young shoots and leaves during the hot weather when no grass is fit to eat. On the crest and slopes of the Ghâts, where the jungles have been much kumried, there are large expanses of forest-land which are either quite bare or covered with *karwe* or scrub. These lands have so deteriorated, or the grass or scrub is so dense, that, even if fires could be excluded and grazing stopped, it would in all probability be impossible that they should become re-clothed with trees, or that seedlings could be got to grow, for many decades. The complete failure of numerous attempts to re-stock even freshly-made kumri-lands shows how difficult it is to re-clothe the slopes of the Western Ghâts after they have been cleared by fire. Kumriválás have generally chosen the highest and steepest slopes of the hills for cultivation. The steepest slopes are best adapted for their purpose because weeds are least troublesome on steep ground, but the consequence is almost absolute barrenness. In former times, when forests were not considered of any importance, men were encouraged to kumri anywhere on the Ghâts. Kumri has not been stamped out yet by any means, but its spread has been considerably retarded.

3. In the evergreen forests, which are most extensive on the western slopes of the Ghâts, fire cannot penetrate (owing to the density of the jungle) and the grazing is extremely bad, there being no grass and few edible leaves. The natural consequence is excellent reproduction from self-sown seed. It is impossible to give the area of these evergreen tracts which are scattered and have not been separately demarcated. I dare say there may be some 400 square miles of evergreen or semi-evergreen forest in the Circle, but this is a mere guess.

4. The rest of the forest-area has been traversed by fire for years and years, and it is only quite recently that any attempts have been made to cope with fires. It appears probable from an investigation of the growth of numerous trees which have been cut down and examined during the last two years, that fires have regularly overrun the deciduous forests of Kánara for about 100 years, but that before that period they did not occur, or only at such wide intervals as not to affect to an appreciable extent the growth and reproduction of the forest.

5. All beginnings are difficult, and our first attempts to stop fires in the face of immemorial custom and prejudice have assuredly been no easy task, although they cannot be said to have completely failed. If the reports of areas actually protected could be relied on, I think the officers of the Circle might be fairly

congratulated on the comparative success of the undertaking. A year or two hence, it will be possible to say positively what the result of these protective measures is likely to be, but, as yet it seems to me too early to say if they have materially assisted natural reproduction. Last season was the first in which attempts were made to protect large areas.

6. It is needless to say that hitherto natural reproduction by seed has been extremely bad in the fire-traversed areas, and Messrs. Bell and Oliver, who have minutely examined the area (117,414 acres) to be tapped by the proposed railway from Nágargali to Gund, report that the whole is quite devoid of seedlings.

7. The system which prevails of girdling timber-trees also prevents reproduction from stools, so that the most valuable trees must gradually disappear unless fires can be kept out.

8. Of artificial reproduction by means of planting and sowing little need be said. Seed was sown broad-cast in suitable places last season for the first time, and the regular plantations were protected from fire as usual. On the whole, the regular plantations even in this moist region are not very flourishing, excepting the casuarina-plantations on the shore which can scarcely be considered results of *reproduction*. The teak-plantations about Barchi, Kadra, Singatgeri and Bomanhalli are growing fairly well, but the mistake has been made of not mixing them with other species.

9. I have little doubt that any money available for regeneration can be most advantageously employed in protecting the forest from fire, in sowing seeds broad-cast in suitable places, and in putting down seedlings taken from other parts of the forest in places where timber-trees have been cut out of the forest in jardinage. The planting-up of bare wastes is a very uncertain and very expensive process, as the young plants have to be watered for a couple of years and the ground weeded; even with all this care, they never succeed as well as the self-sown seedling which grows up under the partial cover of the forest and in an environment exactly suited to its own nature. If protection from fire and cattle be afforded, the grassy open wastes which have not become utterly barren will gradually become covered with trees by the surrounding forest pushing its way further and further into the open, but to attempt the direct reboisement of denuded areas before the forest-clad area has been improved and properly stocked does not appear to me expedient.

II.—Dry-zone, rainfall 15—40 inches, including East Belgaum, East Dhárwár and Bijápur.

10. The forest-lands in these districts are either quite bare or covered with more or less thorny coppice and scrub. Reproduction from coppice-shoots is generally good in spite of fires which traverse the whole area every year, excepting an insignificant area which has been protected from fire. These small forests naturally consist chiefly of coppice as, owing to fires, seedlings cannot come up except under the most favourable conditions. Nevertheless, it has been found, even in the extremely dry district of Bijápur, that where there is a little cover, seedlings of *nim* and bamboos can be successfully raised without watering by protecting the jungle from fire and cattle. This has been done on a small scale in the Bádámi and Bágalkot Tálukas, and arrangements are being made to close a fair proportion of the whole area for regeneration. The regular plantations in this zone are very expensive and are certainly not looking well. Here, as elsewhere in the Circle, I propose to stop attempting regular plantations, which at best are a mere drop in the ocean, and to devote all money available for regeneration to the carrying-out of measures to protect the forests from fire and grazing and to the broad-cast sowing of seeds, or the planting of seedlings which do not require expensive nurseries, nor watering. We will, in this manner, be able to deal with comparatively large areas commensurate with the area of the whole forest. Practically, reproduction by seed in the whole of this zone is *nil*, the few selected patches of jungle in which reproduction of this nature can be shown being insignificant as compared with the whole.

III.

11. In the above account I have referred as much to the measures now being introduced to promote natural reproduction by seed, as to the actual state of reproduction, because Government might otherwise think that we are not paying sufficient attention to this all-important matter. The state of the forests in regard to reproduction by seed is, I admit, unsatisfactory: but it must be remembered that no attempts were ever made to protect the jungles from either fire or cattle previously to 1887-88; that the first season's work was very limited; that the executive and protective staff has much to learn in the matter of fire-protection; that the closing to grazing of portions of forests is a work which requires the marking-off and careful selection of such areas, and is, consequently, a slow process.

I have, &c.,

(Signed) J. L. L. MacGREGOR,

Conservator of Forests, Southern Circle.

SIND CIRCLE.

No. 828 of 1889-90.

From

THE CONSERVATOR OF FORESTS, SIND CIRCLE,

To

THE SECRETARY TO GOVERNMENT,
REVENUE DEPARTMENT.

Conservator's Office,

Hyderabad, 10*th September* 1889.

Sir,

I have the honor to forward herewith the Forest Administration Report of the Sind Circle for the year 1888-89 with its subsidiary statements.

I have the honor to be,

Sir,

Your most obedient Servant,

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

(Through the Commissioner in Sind.)

ANNUAL ADMINISTRATION REPORT OF THE SIND FOREST DEPARTMENT FOR THE YEAR 1888-89.

Introduction.

An area of 49,471 acres was added to the Sind Circle during the year under report.

2. The regular demarcation of forests in Sind may be said to have been completed, and no expenditure was incurred during the year under the head of Forest Demarcation and Settlement.

3. The general protection of the forests and the rate of reproduction in areas cleared in the working of previous years was found to be highly satisfactory.

4. The number of fires compared with the year 1887-88 is the same, but owing to conditions being more favourable to the spread of fires, the area burnt is double that of the previous year.

5. The railway authorities did not indent for a fresh supply of wood during the year under report till very late in the year, as they had a large stock of wood on hand from the quantity taken over during the year 1887-88.

6. An application was received for a monopoly of the right to purchase babul bark for export to Europe for ten years, and an offer also was made from a local contractor to purchase a large quantity of bark during the year. The grant of a monopoly not being considered desirable by the Commissioner in Sind, the offer of the local contractor was accepted.

7. A monopoly for three years of right of exporting wood to Bombay and Katch Mandvi was sanctioned by the Commissioner in Sind with a view to stimulating trade in wood between Sind and the Presidency proper.

8. The financial results are not so satisfactory as they might have been owing to the falling of in the consumption of wood fuel by the railway.

CHAPTER I.

Area and Boundaries.

9. The following table gives the area of the Sind Forests as it stood on 31st March 1888, and also the areas added thereto and deducted therefrom :—

Name of Division.	Area as it stood on 31st March 1888.				Area added during the year or gained by action of the river.				Area excluded during the year or lost by action of the river.				Area as it stood on 31st March 1889.			
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres
Sukkur ...	425	439	1	128	34	596	...	...	3	430	...	...	456	605	1	128
Naushahro ...	186	469	...	..	40	578	...	...	2	230	...	...	225	177	...	...
Hyderabad ...	172	73	...	...	3	380	...	...	6	221	...	...	169	232	...	...
Jerruck ...	108	449	...	...	13	495	...	...	...	140	...	...	122	164	...	...
Total...	893	150	1	128	93	129	...	...	12	381	...	...	973	538	1	128

The losses and gain of area, due to the changes in the course of the river, have been very extensive, but the former have involved newly formed lands, almost exclusively, and the loss of mature timber-bearing land has been very small. The chief loss has been in grazing grounds, the Hyderabad Division being the chief sufferer. The following figures show the loss and gain in each Division :—

Division.	Area lost.	Area gained.
Sukkur	2,350 Acres	6,958 Acres.
Naushahro	1,510 ,,	850 ,,
Hyderabad	4,061 ,,	2,300 ,,
Jerruck	140 ,,	70 ,,

10. A sum of Rs. 3,277 was spent in keeping the eroding banks clear of trees to prevent their falling into the river and endangering navigation.

11. Of the material resulting from erosion fellings, Rs. 4,672-12-5 worth was disposed of during the year, and Rs. 2,263-12-0 worth still remained on hand at its close.

12. The dispute as to the right of the Forest Department to a large area of alluvial land in the Sukkur Division alluded to in para. 10 of last year's report has been satisfactorily settled.

13. A new departure was taken this year in the settlement of kacha disputes between the Forest Department and the Khairpur State. Hitherto all disputes have been settled under the Alluvion and Diluvion Rules published under Rules under "Special Local Acts." But in a dispute involving a very large area which had been thrown up, and the greater part of which was claimable by the Forest Department under the rules, along the bank where the boundary of the Khairpur State touches the Mohbatdero Forest, it was held by the Commissioner in Sind that the Alluvion and Diluvion Rules did not apply in the settlement of disputes with Foreign States, and the settlement was made by prolonging the boundary in a straight line about due west, the direction of the old boundary between the forest and the Khairpur State. This line is to be the basis of settlement of all further disputes if the land is again washed away and re-appears. It has the merit of preventing any further disputes if the Khairpur officials can be made to abide by it, if the curve of the next accretion favours them instead of the Forest Department, as it did on this occasion.

14. The areas notified under Section 19 of the Forest Act during the year under report are given below :—

Name of Forest.	Taluka.	Area in acres.
Garhi Yasin	Naushahro Abro	25,328
Dilmurad	Thul	49
Mirpur	Thul	6,978
Karampur	Thul	6,060
Jangan	Thul	2,291
Katcha Alibhar	Sujawal	3,000
Do. Suejani	Sujawal	3,410
Do. Kote Almo	Sujawal	2,335
Milkiat Sircar	Jacobabad	20
		49,471

15. The following table gives the lands that have been selected for reservation, but have not yet been finally notified under Section 19 :—

Name of Forest.	Taluka.	Area in Acres.
Ali Ganj	Tatta	431 20
Hilaya		849 18
Shah Louko		312 10
Tatta		12,388 30
Garko		933 23
Chhachh		3,361 27
Khairwah	Jacobabad	56 30
Gokulpur		64 30
Tarai	Naushahro Abro	2,349 5
Chango Rahuja		1,749 35
Choi		3,132 20
Adamji		4,352 25
Phohyroi		473 4
Musti Khan		225 0
Nurketi	Hala	643 5
Drago	Ghotki	2 5

16. The regular demarcation of forests in Sind may be said to have been completed, but it may be found desirable to take up certain large areas of waste land near the banks of the river in the Hyderabad Collectorate, that can yield little or nothing to Government in their present condition, but which under proper management could be converted into babul forests to meet the growing demand for firewood due to the establishment in the district, of cotton and other mills worked by steam power, and also to meet the larger demand for babul firewood by the railway, which now takes this kind of wood in unrestricted proportion with other wood.

17. There was no expenditure incurred during the year under the head of forest demarcation and settlement.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

18. The survey of the forests on a large scale giving all details of topography, nature of growth, &c., was continued.

Two surveyors were employed throughout the year with the following results in areas surveyed :—

Division.	Forest.	Area Surveyed.
Sukkur	Bhindi Dhareja	6,533 Acres.
„	Kadrapur	2,085 „
„	Deda	282 „
Jerruck	Penah	6,196 „
„	Khirsar	1,387 „
„	Susati	250 „

No change has been made in the system of working the forests, and there is nothing fresh of any interest to note under this head.

19. The work of cutting the forest up into compartments was continued and good progress made. The operation is approaching completion, but remains to be carried out in the newly acquired reserves, and in some of the old forests of the Jerruck Division.

20. The boundaries of all the reserves notified up to date have been laid down by cleared sides and boundary mounds as far as time and funds permitted.

CHAPTER III.

Protection and Improvement. Section 1.—Establishments.

21. Mr. G. M. Ryan, Assistant Conservator of Forests, was in charge of the Sukkur Division from the beginning of the year till 2nd May, when he was relieved by Mr. A. Stewart, Deputy Conservator of Forests. Mr. Ryan's health had suffered from the effects of the climate in Sukkur during the previous hot weather, and a change to Lower Sind was considered advisable. Mr. Stewart remained in charge of the Sukkur Division during the rest of the year. Mr. Tuljaram, Sub-Assistant Conservator of Forests, served in the Sukkur Division throughout the year.

22. The Naushahro Division was under the charge of Mr. Neribdas Jethmal, Sub-Assistant Conservator of Forests, throughout the year.

23. The Hyderabad Division was in the charge of Mr. Showkiram Peribdas, Sub-Assistant Conservator of Forests, from the 9th April to the end of the year. Mr. Hexton, who had held charge of this Division up to the date given above, was transferred by the orders of Government to the Presidency proper. Mr. Hexton, who served in Sind during the greater part of his service, had a thorough knowledge of the Sind forests and the people in and around them, and with whom he had great personal influence. I was very sorry to lose his services.

24. The Jerruck Division was in charge of Mr. Stewart, Deputy Conservator of Forests, up to May, when Mr. Ryan assumed charge on transfer from Sukkur.

Section 2.—General protection and breaches of forest law.

25. The general protection of the forests was good and the conduct of the Protective Establishment on the whole satisfactory, though I regret to have to report same cases of misconduct. Forester Khanchand, Sukkur Division, was reduced from 2nd to 3rd Grade for carelessness and suspected connivance at an attempted fraud. Forester Anandrai, of the same Division, was found in possession of a quantity of rafters he had removed for his own use from the forests under his charge, but for which he produced a receipt said to have been given by one Sidik, from whom the rafters were said to have been purchased. But on enquiry Sidik repudiated the transaction, and the receipt was found to be a forgery. During the departmental enquiry by the Divisional Forest Officer, Forester Anandrai behaved with great insolence, and accused the Divisional Forest Officer to me of having struck him and foully abused him.

As the accusations made by Anandrai were found to be entirely false, and there did not appear to be a shadow of doubt as to his guilt in respect of the rafters, I dismissed him and ordered him to be prosecuted.

A complaint was lodged against him on 14th December 1888 before the City Magistrate, Shikarpur, but owing to frequent postponements granted in the hearing of the case, it was still pending when the year under report came to a close.

26. A comparative table showing the cases tried before Magistrates for breaches of forest law during the year under report, and the one preceeding it, is given below :—

Name of Division.	Number of cases tried before Magistrates.		Number of convictions.	
	1887-88.	1888-89.	1887-88.	1888-89.
Sukkur	102	84	62	46
Naushahro	11	8	7	7
Hyderabad	11	10	7	8
Jerruck	6	3	2	2
Total...	130	105	78	63

The results compare favourably with those of last year as regards proportion of convictions to the number of cases tried, and the number of cases actually tried are also much fewer in the year under report than the preceding one, but I cannot assign any special reason for this improvement.

27. A statement giving the number of petty offences compounded under Section 67 of the Indian Forest Act will be found below :—

Name of Division.	Illicit grazing.		Theft.		Other offences.		Compensation.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
							Rs.	Rs.
Sukkur	498	514	127	73	17	7	3,159	2,659
Naushahro	32	103	20	24	...	10	82	149
Hyderabad	233	117	48	119	...	...	307	720
Jerruck	428	493	42	5	2	28	793	788
Total ...	1,191	1,227	237	221	19	45	4,341	4,316

The offences under the head of theft show a decrease, but those under illicit grazing and other offences, which consist chiefly of lopping by goatherds, are more numerous, as compared with the figures of the former year. This is not so unsatisfactory as it would appear at first sight. The facilities for illicit grazing and lopping are great and the offences are not uncommon, the detection of a larger number of such offences points merely to greater vigilance on the part of Forest guards.

28. There were two cases of serious assault on Forest guards by cattle-breeders. In one a conviction was obtained, but in the other the Magistrate let the offenders off because there was a slight discrepancy in the statements of two of the witnesses for the prosecution, which appears to have justified him in giving the offenders the benefit of the doubt and holding that the Forest guards, who had been thrashed, had been over zealous in the discharge of their duty.

Section 3.—Fires.

29. The number of fires is the same as in 1887-88, but the area burnt is more than double as large. Though this is the case the fires have not been so extensive or as destructive as they are in some years. The chief increase in the area burnt is in the Sukkur Division in Upper Sind, caused by incendiary fires lighted by cattle-breeders for the sake of new grass, and by the increse of fires into the forest, lighted outside forest limits, by cultivators.

30. Enquiries were made from the District Officers of the Revenue Department as to the extent they were able to give effect to the suggestion's made in Government of India's No. 110 F of 30th January 1889, but the answers elicited show that these officers were either unable to do very much, or did not understand the scope of their obligations in the matter. In the Naushahro and Hyderabad Divisions there is also an increase in the area burnt. In the former Division the most extensive forest fire was caused by the officials of the Khairpur State, who deliberately set fire to the jungle to clear the ground for the purpose of facilitating the settlement of a boundary dispute. The matter has been brought to the notice of the Political Agent. In the Hyderabad Division the fires were evidently incendiary for the sake of new grass. Owing to the low inundation of the previous year and want of rain the existing grass was coarse and dry. It was found necessary to close burnt areas to check these incendiary fires.

31. A statement of the number of fires and the area burnt is given below :—

Name of Division.	Number of Fires.		Area burnt.	
	1887-88.	1888-89.	1887-88.	1888-89.
Sukkur	58	61	1,843	3,946
Naushahro	12	8	1,178	2,078
Hyderabad	11	15	301	1,013
Jerruck.....	13	10	250	238
Total ...	94	94	3,572	7,275

32. The following is a statement of the area protected :—

Name of Division.	Area attempted to be protected.		Failures.		Area actually protected.	
	Sqr. Miles.	Acres.	Sqr. Miles.	Acres.	Sqr. Miles.	Acres.
Sukkur	458	93	6	106	451	627
Naushahro	60	484	3	158	57	326
Hyderabad	45	403	1	373	44	30
Jerruck	29	634	...	238	29	396
Total ...	594	334	11	235	583	99

The results cannot be compared with last year's figures, as I have eliminated from the "area protected" all such areas as are not in any real danger of suffering from forest fires, either by reason of the density and shade of large tree growth practically preventing the existence of grass and under wood, or owing to the land from the saline nature of the soil or other causes being unproductive of grass reeds or other herbage likely to be fired.

Section 4.—Grazing.

33. The province had suffered again from a deficiency of rain and the river side forests in Central and Lower Sind that are within reach of the pastrol tribes in the hilly tracts on the west were resorted to in numbers exceeding even those of last year, and were, without doubt, the means of saving thousands of cattle that would otherwise have perished for want of fodder on the hills.

34. The chief grazing grounds are to be found in the "kachas" or newly formed alluvial lands in the river frontages of river side forests. These tracts not only afford abundant natural fodder for cattle, but such land before it has risen high enough by the yearly deposit of silt, during the inundation season, to be fit for the growth of trees of any value, is very suitable for the raising of fodder crops. The Forest Department permits crops of this kind to be raised on them, and this adds immensely to the comfort and prosperity of the pastrol population in the neighbourhood of the Government Reserves. Some Revenue officers view with great disfavour the possession of "kachas" by the Forest Department, and think it would be better to clear and devote them to cerial cultivation, if possible. There is not only a vast area of waste land in the province, far in excess of all possible requirements for agriculture, both in "kachas" and ordinary land, but it would be as stupid as it would be cruel to ignore the wants of the pastoral section of the population by not holding in reserve grazing grounds that are independent of rain, in a province that has such a scanty and precarious rainfall, and in which a drought may extend for a whole year.

35. A statement of the number of cattle permitted to graze free is given below :—

Buffaloes	926
Horned cattle	4,333
Horses and donkies	53

Section 5.—Natural Reproduction.

36. In the river side forests of the Sukkur Division the compartments cleared in the fellings for locomotive fuel were closed to grazing, for reproduction, which is reported to be satisfactory from coppice shoots. The compartments that had been closed in previous years inspected by myself showed very good results; the areas of which the trees had been cleared being everywhere reclothed with fresh growth, but the inundation of the previous year had been a very low one, and there is much dry grass in the compartments under reproduction which is a source of great danger from forest fires, which yearly do very great damage and seriously retard the restocking of forest areas that have been worked out. In the Jacobabad districts and in Reserves lying within the protective embankment not capable of irrigation direct from the river, natural reproduction is slow and unsatisfactory, and this state of things must continue till the canal power of the district is increased and water can be made available for the irrigation of the Reserves. It is only in tracts where the land is sweet and good throughout that the roots of the trees, principally kandi (*prosopis specigera*) have reached low enough to make them independent of surface irrigation,

which has been cut off by the erection of the protective embankment. In patches where the roots in their downward course to find moisture have encountered deep belts of sand or saline soil, the trees have either died or exist merely as stunted bushes. When the trees *have* established themselves it is surprising to see with what vigour they continue to grow and coppice if cut down. A considerable proportion of the fellings this year for locomotive fuel have taken place on land that has been worked and cleared within the last eight or ten years, and on which the tree growth had re-appeared under simple but efficient protection, but without any artificial surface irrigation whatever.

37. In the Naushahro Division 1348 acres of cleared land was closed for natural reproduction. Out of this an area of 353 was given out for cerial cultivation for one season, with a view to assisting the coppice and fresh growth with the water brought on to the land for irrigating the crop, the cultivator undertaking to cut flush with the ground all gnarled and stunted bushes and to leave the land strongly fenced in after the removal of the grain crop. I inspected all the land so treated, and found that over about half the area where the cultivators had carried out their agreements honestly the results were highly satisfactory, but where the fences had been put up more for show than use, the fresh growth had been seriously injured or destroyed by goats and other animals that had found their way into the enclosures. The natural reproduction in areas closed in previous years was on the whole satisfactory, but many of the reserves in this Division suffer greatly for want of water, and it will be many years before funds can be made available for works necessary for their irrigation.

38. No fresh closures were made in the Hyderabad Division, as the annual fellings were taken in hand so late in the season that none of the compartments that were being worked were quite cleared and ready for closing before the end of the year. The reproduction in compartments previously closed was quite satisfactory. Natural reproduction in this Division is easy and certain, and the reserves may fairly be claimed to be maintained fully stocked either with mature or young growth.

39. Six hundred and forty-three small beams of babul timber were removed from Sekhat Forest. The age of the trees that gave them was known to be about 11 to 12 years. They were cut for thinning in compartments that were closed for reproduction in 1876-77.

40. Fellings for babul bark were made in compartments, the growth in which is that of less than twelve years. The results up to end of March 1889 are as follows :—

Area cleared	150 acres.
Number of selected trees left to grow into building timber per acre at an average	15 „
Total quantity of bark...	4,649 maunds.
Total quantity of firewood...	20,718 maunds.

41. In the Jerruck Division the fellings were also commenced very late and no fresh closures were made. Conditions are not so favourable to natural reproduction on the whole in this Division as they are in Hyderabad, owing to the fact that a large part of the forest area lies within protective embankments and its irrigation; though it is practicable by sluices and canals provided for the purpose, yet the quantity of water that can be let into the forests is limited owing to the danger of spill from the forests injuring cultivation beyond their limits, and this state of things cannot be remedied till funds can be found for the erection of certain embankments to prevent

the escape of water out of the forests. Where the forests are capable of being properly irrigated the success and rate of reproduction leaves nothing to be desired. A compartment was being worked for railway and other fuel this season that was closed in 1878 after having been entirely cleared.

Section 6.—Artificial Reproduction.

42. There is nothing in this province that can be fairly classed under this head, beyond the scattering of tree seed when required in closed compartments, and sowing it in land given out for cultivation for a season or more with a view to raising tree seedlings and encouraging coppice growth with the crop and closing the land when they are established. An area of 25 acres was treated under this plan in the Hyderabad Division and 268 acres in the Jerruck Division; one hundred and ninety maunds of babul and kandi seed was scattered in closed compartments that required it.

43. In the Sukkur Division two plots of 25 acres each were planted with cuttings of tali, *Dalburgia Sissu*, and tree tamarisk, but the results have not been good; much damage was done by frost. Two acres were added to the tali plantation in the Abad range near Sukkur, which has been such a success, as already reported in former reports. Other gardens and plantations were kept up, but there is nothing fresh of any interest to add concerning them.

Section 7.—Experiments.

44. *Prosopis Glandulosa*, the seed of which was sent by Government for experiment in 1877-78, having giving results which tend to show that it would probably grow under natural conditions in the Sind forests, broadcast sowings of its seed raised in the plantations have been made from time to time in different parts of the Miani range, Hyderabad Division, but so far with no results. This year I ordered a quantity of seed to be sown on ploughed land that had been moderately flooded. The seed germinated freely, but it remains to be seen whether the seedlings will survive the next hot weather and inundation.

45. The spare land in the mangoe plantation in the Miani range, Hyderabad Division, was again given out for cultivation on the share arrangement with the following results :—

Area cultivated.....	10 acres.
Total yield.....	Rs: 974
Government share	„ 487

The crop of cotton partially failed over 4 acres for want of sufficient supply of water due to early fall of the river.

46. The bamboo plantation, of which mention has been made in former reports, has for some years been left unirrigated, except by such water as finds its way into it during very high floods. Its present condition proves that bamboos will not grow in Sind unless artificial irrigation is maintained, under these circumstances it could never pay to grow them.

Section 8.—Communication and Buildings.

47. In the Sukkur Division a small building was erected in Shikarpur for the use of the men employed in the issue and collection of passes for

firewood at a cost of Rs. 140-15-2, and a small house costing Rs. 49-14-2 was put up for the use of the Range Forest Officer, Sadhuja range, to replace one that had been destroyed by a flood. Existing buildings were repaired as usual.

48. In the Naushahro Division a new house was built for Range Forest Officer, Sehwan, at a cost of Rs. 101-0-0. No new buildings were put up in any of the other Divisions. Ordinary repairs to existing buildings were carried out.

CHAPTER IV.

YIELD AND WORKING.

SECTION 1.—DEPARTMENTAL OPERATIONS.

49. The following statement shows the details of the working of Departmental Depôts :—

Name of Depôt.	Stock on hand on 1st April 1888.			Added during the year 1888-89.			Disposed of during the year 1888-89.			Balance on 31st March 1889.		
	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.
	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.
Shikarpur	.....	.....	.....	652	18,749	200	325	9,947	...	327	8,802	200
Sukkur	8,622	8,234	91	4,040	6,497	1,200	3,284	6,014	1,025	9,378	8,917	266
Rohri	956	4,920	.....	1,297	14,376	.....	1,877	18,449	... ..	376	847	.....
Larkana	.....	1,900	3,309	.....	.....	1,400	.....	1,033	4,428	.....	267	281
Sehwan	.....	13,995	.....	.....	4,906	.. ..	.....	13,729	.....	.....	5,166	.....
Tatta	229	1,640	.....	....	.....	.....	8	1,640	.....	221	.....	.....
Ke i Bandar	.....	.....	156	7,813	.....	2,531	7,510	.....	812	333	.....	1,875
Kotri	911	80	33,279	472	.....	1,17,957	860	80	1,18,960	523	.....	32,276
Hyderabad	5,934	44,739	40,055	3,224	1,81,176	48,836	6,107	1,73,566	87,246	3,051	52,349	1,645
Total...	16,652	75,508	76,890	17,528	2,25,698	1,72,124	19,971	2,25,058	2,12,471	14,209	76,148	36,543

50. The quantity of timber and fuel sold at each depôt is given below :—

Name of Depôt.	Timber, c. ft.		Posts and Rafters, number.		Fuel, maunds.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
Shikarpur	1,460	325	16,942	9,947	...	...
Sukkur	5,326	3,284	56,798	6,014	8,909	1,925
Rohri	823	1,877	10,723	18,449	...	...
Larkana	438	...	1,301	1,633	3,888	4,428
Sehwan	...	...	10,501	13,729	...	...
Karachi	1,743	...	...	...	...	...
Tatta	265	8	82	1,640	...	...
Keti Bandar	8,529	7,510	...	...	313	812
Kotri	3,243	860	28	80	1,25,637	1,18,960
Hyderabad	1,235	6,107	1,50,503	1,73,566	66,762	87,246
Total...	23,062	19,971	2,46,838	2,25,058	2,05,509	2,12,471

51. A statement of the quantity of timber supplid to the Railway and other Departments, &c , on indent :—

Name of Department.	Babul logs.	Babul sleepers.	Babul bolsters.	Bahan rafters.
	No.	No.	No.	No.
North-Western Railway	4	.....	128	.....
Karachi Harbour Works	.....	4,002	.....	.....
Gun Carriage Factory	390	.....	.....	.....
Hyderabad Municipality	985	.....	.....	3,000

52. The quantity of timber cut departmentally and disposed of in the forests during the year is given below :—

Name of Division.	Timber.	Babul posts.	Jhau posts.	Bahan posts.	Bahan rafters.	Kirir rafters.	Jhau rafters.	Babul slabs.
	C. ft.	No.	No.	No.	No.	No.	No.	No.
Sukkur...	475	.....	.....	121	86	.....	.....	.....
Naushahro	1,060	45	.....	100	19,050	410	3,380	.....
Hyderabad	1,206	....	.....	.....	3,000	.....	.....	22
Jerruck	89	....	.....	.....	.....	.....	.....	700
Total...	2,830	45	.....	221	22,136	410	3,380	722

Except on eroding banks timber is only cut for disposal in the forest to meet requisitions made for it.

53 All the depôts were worked departmentally except the one in Hyderabad, which is worked on the share system.

54 In the Sukkur Division there is a very large falling off, due to the influx of timber imported from Foreign States. An application was made to Government with a view to putting a duty on Foreign timber to enable the Forest Department to recoup itself for the loss it suffers by Foreign importation of timber. But Government have desired that the selling prices in the Sukkur Division Depôts be reduced 20 per cent., with a view to ascertaining whether the reduction in price will increase sale. It may do so, but will not raise the revenue to its former level.

55. In the Naushahro Division the demand for large timber is so small that the stock in hand in 1887-88 was sold off and has not been renewed.

The sales in the smaller descriptions of timber show a small improvement.

56. In the Hyderabad Division there is a marked increase under all heads. Under timber the improvement is due to the glut in the market caused by the abnormally large sales of timber in 1886-87 having disappeared ; under other heads to better demand, which has been progressive for the last few years.

57. In the Jerruck Division the Karachi and Tatta Depôts have been abolished, and the timber sold is merely the clearing off of old stock in the Tatta Depôt. The timber shown in the Keti Bandar Depôt is the timber for the Gun Carriage Factory in Bombay, which is passed through the depôt books as a check.

58. A statement showing the quantity of firewood supplied under departmental agency to the State Railway and other Departments and large consumers is given below:—

To whom supplied.	Firewood in Maunds.	
	1887-88.	1888-89.
North-Western Railway	15,43,278	3,72,476
Commissioner's Steamer	.....	13,925
Indus Ferry Steamers	1,02,437	1,61,350
River Conservancy Department	7,124	6,295
Public Works Department	.....	222
Karachi Harbour Works	45,514	50,827
Commissariat Department	26,582	24,857
Hyderabad Water Works...	52,000	41,000
Sukkur Municipality...	1,550	3,550
Hyderabad Jail...	2,344	2,572
Government Farm, Hyderabad...	13,000	7,750
Manager, Incumbered Estates	3,000	.....
Total...	17,96,829	6,84,824

The railway had accumulated such a lare stock of wood on hand that they withdrew their indent for the year commencing on 1st January 1888, and did not resume taking wood till the spring of 1889, hence the falling off in the quantity supplied. The large increase in the quantity supplied to Indus Ferry Steamers is all at Sukkur, but the reason for it is not given by the Divisional Forest Officer; it is probably due to the influx of people to visit the Sukkur Railway Bridge.

Section 2.—Removal of produce by purchasers.

59. The following is a statement of the value of timber and firewood removed from the forests other than that removed under the permit pass system :—

Name of Division.	Timber.		Firewood.	
	1887-88.	1888-89.	1887-88.	1888-89.
Sukkur	4,709	5,231	951	1,011
Naushahro	325	712	154	1,133
Hyderabad	1,322	2,515	859	2,934
Jerruck	913	934	432	368
Total...	7,269	9,392	2,396	5,446

60. The amount of fees paid on firewood brought for sale under the permit-pass system is as under:—

Name of Division.	Name of Ghat.	Revenue realized. 1887-88.	Revenue realized. 1888-89.
Sukkur	Rahuja	12,634	10,763
	Thali		
	Rohri		
	Sadar	16,449	13,708
	Stewart		
	Khura		
Naushahro	Larkana	2,599	2,666
	Gharhi	...	848
Hyderabad	New Fuleli	698	2,125
	Old Fuleli		
	Hajipur		
	Total Rs. ...	32,380	30,110

The falling off under this head is due to the larger number of passes issued by the Revenue Department for wood collected on waste land in the Shikarpur District.

Section 3.—Free Grant.

61. Free grants of timber to the value of Rs. 1,653-12-10 were made to poor villagers and to those who had suffered loss by fire or erosion of the river bank.

Section 4.—Summary of Produce.

62. The following is a statement of the timber worked out by departmental agency.

Name of Division.	Timber, cubic feet. 1887-88.	Timber, cubic feet. 1888-89.	Posts, No. 1887-88.	Posts, No. 1888-89.	Rafters, No. 1887-88.	Rafters, No. 1888-89.
Sukkur	7,982	6,721	11,212	6,927	73,261	26,827
Naushahro	526	1,422	2,965	829	46,342	37,843
Hyderabad	5,058	8,150	4,015	5,726	1,46,482	1,68,166
Jerruck	11,342	8,089	252	1,627	...	1,913
Total ...	24,908	24,382	18,444	15,109	2,66,085	2,34,749

63. The quantity of timber received by purchasers is as under :—

Name of Division.	Timber, cubic feet.		Posts, No.		Rafters, No.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
Sukkur.....	3,627	6,434	980	1,579	78,911	1,10,852
Naushahro	1,412	2,223	...	200	7,029	8,167
Hyderabad	2,911	5,932	3,155	4,302	11,915	15,495
Jerruck	847	2,171	758	909	1,629	1,762
Total ...	8,797	16,760	4,893	6,990	99,484	1,36,276

64. The total yield in timber of each description is given below :—

Name of Division.	Timber, cubic feet.		Posts, No.		Rafters, No.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
Sukkur.....	11,609	13,155	12,192	8,506	1,52,172	1,37,679
Naushahro	1,938	3,645	2,965	1,029	53,371	46,010
Hyderabad	7,969	14,082	7,170	8,881	1,58,397	1,83,661
Jerruck	12,189	10,260	1,010	2,536	1,629	3,675
Total ...	33,705	41,142	23,337	20,952	3,65,569	3,71,025

65. The total yield in firewood of each Division is as under :—

Name of Division.	Firewood.	
	1887-88.	1888-89.
Sukkur.....	12,98,252	7,43,008
Naushahro	4,83,451	1,60,255
Hyderabad	4,70,105	3,05,813
Jerruck	2,51,497	2,11,590
Total ...	25,03,305	14,20,666

66. The total yield in charcoal is as follows :—

Name of Division.	Charcoal.	
	1887-88.	1888-89.
Sukkur	2,050	2,167
Naushahro	5,756	4,408
Hyderabad	11,232	3,962
Jerruck	27,831	31,941
Total ...	46,869	42,478

67. The total yield of the Circle in timber, firewood, and charcoal is given below:—

Timber.....	1887-88	C. ft.	33,705
	1888-89	,,	41,142
Sleepers	1887-88	No.	5,301
	1888-89	,,	4,002
Posts	1887-88	No.	23,337
	1888-89	,,	20,952
Rafters	1887-88	No.	3,65,569
	1888-89	,,	3,71,025
Firewood.....	1887-88	Mds.	25,03,305
	1888-89	,,	14,20,666
Charcoal	1887-88	Mds.	46,869
	1888-89	,,	42,478

68. The realizations from the sale of farms to collect minor produce are given in the following statement :—

Name of Division.	Babul pods.		Lac.		Munj and Sar grass.		Fishery.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89	1887-88.	1888-89.
Sukkur	240	455	...	...	614	681	2,008	1,933
Naushahro	1,633	3,518	...	...	413	503	504	779
Hyderabad	6,939	9,555	756	778	...	...	368	503
Jerruck	2,914	3,630	...	...	25	...	594	277
Total ...	11,726	17,158	756	778	1,052	1,184	3,474	3,492

The only point that need be noticed is the increase in the price of the farms of the right to collect babul pods for feeding cattle in the hot weather. This may fairly be claimed as the result of the successful efforts that have been made during the last twelve years to improve the condition of the babul forest in Central and Lower Sind. Extensive areas that ten years ago were quite open or sparsely covered with jungle that one could see over, now bear splendid babul forest growing fast into maturity.

The young trees have come into bearing within the last two or three years, and enormously increased the supply of babul pods available for picking.

69. An application was received from a gentleman in England who undertook to push the sale of babul bark as a tanning material, if he could be given the monopoly of the export of babul bark to Europe for ten years. There was also an offer from a local contractor, who agreed to take out 17,500 maunds of bark in a year and buy all the timber and firewood resulting from the fellings for bark. The grant of monopoly was not considered desirable by the Commissioner, and the offer of the local contractor was accepted, his agreement being for thirteen months, commencing from 1st July 1888 and ending on 30th July 1889. The conditions were that the contractor carry on his operations in compartments selected by the Forest Department, entirely clear them of all suitable trees, bear the cost of felling and stripping, and pay a royalty of Rs. 20 per 100 maunds on the bark and Rs. 61-4-0 on the firewood resulting from the fellings. Work was commenced as soon as possible and pushed on with great energy, and was progressing very satisfactorily, when, unfortunately, the contractor died of cholera in November. The contractor's security, after a little pressure, was induced to carry on the contract, but the chances of its satisfactory fulfilment are more than doubtful, as all enterprise in the undertaking died with the original contractor.

70. The revenue from grazing fees was as under :—

Name of Division.	Grazing fees.	
	1887-88.	1888-89.
Sukkur	17,268	17,656
Naushahro	8,135	8,875
Hyderabad	14,731	16,379
Jerruck	12,855	14,270
Total ...	52,989	57,180

71. Four thousand six hundred and forty-nine maunds of babul bark was removed from the forests by the contractor alluded to in para. 40.

Section V.—Export of Forest Produce.

72. Three hundred and ninety babul logs were exported to Bombay for the use of the Government Gun Carriage Factory.

73. Two lacs twenty-two thousand six hundred and twenty-five cubic feet of firewood was exported to Bombay, Katiawar, and other Ports.

74. With a view to stimulating the export trade in firewood a monopoly of all the wood that can be exported from the forests in Lower Sind was given to a contractor for three years, who agrees to buy a minimum of 3,00,000, 4,00,000, and 4,50,000 cubic feet respectively during the three years currency of his monopoly. The wood to be cut and stacked by departmental agency and delivered on the bank of the river. Failing to remove the minimum quantity agreed upon for each year the contractor to pay royalty on the quantity not taken at Rs. 17 per stack of 1,000 cubic feet and Rs. 11 per stack of 675 cubic feet.

Chapter V.—Financial Results.

75. The total receipts and expenditure during the last two years are as follows :—

	Actuals, 1887-88.	Actuals, 1888-89.	Increase.	Decrease.
Receipts	6,32,302	4,15,867	...	2,16,435
Expenditure A, Conservancy and Works	3,54,985	1,85,884	...	1,59,101
Ditto B, Establishment	1,11,142	1,00,227	...	10,915
Total Expenditure ...	4,66,127	2,86,111	...	1,70,016
Net Revenue ...	1,66,175	1,29,756	...	46,419

76. A statement of receipts and expenditure is given below :—

Receipts.	1887-88.	1888-89.
I. Timber and other produce removed from the forests by Government agency—		
(*a*). Timber	73,923	63,864
(*b*). Firewood and charcoal ...	4,19,430	1,96,303
(*c*). Grass and other minor produce ...	934	1,749
II. Timber and other produce removed from the forests by consumers, &c.—		
(*a*). Timber	7,269	9,391
(*b*). Firewood and charcoal ...	34,776	33,661
(*d*). Grazing and fodder grass ...	52,989	57,180
(*e*). Other minor produce ..	15,037	21,965
III. Confiscated, drift and waif wood ...	2	35
V. Miscellaneous	27,942	32,319
Total Receipts...	6,32,302	4,15,867
A. Expenditure, A, Conservancy and Works.		
I. Timber and other produce removed from the forests, &c.		
(*a*). Timber...	33,471	27,429
(*b*). Firewood and charcoal ...	3,07,248	1,44,390
(*e*). Grass and other minor produce...	670	569
II. Timber and other produce removed from the forests by consumers, &c. ...	12	9
VI. Live stock, stores, tools and plant ...	1,018	504
VII. Communication and buildings	407	760
VIII. Demarcation, improvement and extension of forests...	11,921	11,195
IX Miscellaneous	238	1,023
Total A, Conservancy ...	3,54,985	1,85,884
B.—Establishment.		
I. Salaries	90,363	80,452
II. Travelling Allowances	16,593	15,427
III. Contingencies	4,186	4,348
Total B ...	1,11,142	1,00,227
Grand Total ...	4,66,127	2,86,111

There is a falling off of Rs. 2,16,435 in gross, and Rs. 46,419 in net receipts, as compared with last year. It will be seen, however, that had the railway taken as much wood as it does in ordinary years the results this year, both gross and net, would have far exceeded those of any other year. The loss of revenue, due to the railway taking so little wood, is Rs. 2,43,057 and Rs. 74,470 net; under these circumstances it is a matter for congratulation that the better receipts under other heads have so nearly made up for the heavy loss on railway fuel.

General Remarks.

77. A Conference was held at Sukkur on 7th November, under the presidency of the Commissioner in Sind, at which officers of the North-Western Railway and myself were present, to take into consideration the question of the wood-supply for locomotive fuel to the railway. The Bombay Government are of opinion that the State railway does not pay enough for the wood, whereas on the other hand the railway authorities not only consider the wood too dear, but are dissatisfied with the arrangements under which it is delivered to them. They wish the Forest Department to maintain a very large stock of dry wood at each fueling station at its own risk and deliver the wood direct into engines, instead of the present arrangements by which periodical supplies are indented for by the railway and taken over when ready for delivery in bulk. The Conference lasted late into the afternoon and much correspondence was carried on for months after it was over. The net results are, that the railway have agreed to take wood for another year, that is, up to 31st March 1890, at the same rates and on the same conditions as heretofore, but having waived the restriction on proportion of babul wood in the total quantity of fuel supplied, they are to get a proportionate reduction in the price at stations where the extended use of babul fuel cheapens cost of delivery; so that the net profit to the Forest Department on the fuel supplied may remain the same. From the 1st April 1890, the wood supplied to the railway is to be paid for at the actual cost of delivery plus Rs. 12 per stack royalty. This arrangement has been accepted by the Director, North-Western Railway, under protest pending a reference to the Government of India.

78. I spent some time during the tour season in making an inspection of the fuel reserves taken up since 1878, in the Shikarpur and Jacobabad Districts. The condition of most of these reserves, for want of water, is very bad. They lie within the area protected by the Kashmor Bund, and all except one, on land that should be capable of irrigation by the Begari Canal and its branches, but owing to want of a sufficient quantity of water in the canals very little can be done to improve the condition of these reserves. Where the land is saline or has a sub-stratum of sand all tree growth has died out and it is quite bare and unproductive of wood or fodder and will remain so till the canal power of the district is increased. Where the land is sweet and good, and on which kandi and tree-tamarisk jungle exists, matters are more satisfactory. Both these kinds of trees send their roots to a great depth in the soil, and when once fairly established, are independent of surface irrigation. Jungle of this kind, during the present generation at any rate, can be worked for fuel fairly satisfactorily, as the trees cut down coppice well notwithstanding that they get no water beyond the little rain that falls in the district, and there is no difficulty in securing natural reproduction by simply closing the land to grazing by goats.

79. The condition of the river side forests in Upper Sind is also unsatisfactory from the damage done by forest fires in retarding reproduction and the restoration of tree growth on areas that have been worked out.

80. The river side forests in Central and Lower Sind I found in excellent condition, especially in the Hyderabad Division. Reproduction on areas that had been worked over was very satisfactory, and the general protection and absence of damage remarkable.

81. The records and accounts of all the Divisional Forest Officers were examined and found in a satisfactory condition, and I have much pleasure in reporting that the officers themselves have carried on their duties with most praiseworthy zeal and energy. Among the Range Forest Officers, I may give the following as having shown conspicuous zeal and ability in their duties:—

Forest Rangers ...	...	Peribdas. Kishinsing (since dead.) Rambux. Gobindbux. Parmanand.
Foresters ...	...	Wadhumal. Roopchand.

82. Mr. Parmanand, Accountant, and Mr. Lilaram, Head Clerk in the Conservator's Office, deserve to be mentioned for zealous and intelligent devotion to their work.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49.

ANNUAL FORM

FOREST DEPARTMENT, BOMBAY,

Area of Reserved

Division or Range.	Civil District or Territory.		Name of Forest.	Area on 1st April 1888. Acres.	Area on 1st April 1888. Equivalent in square miles.	Added during the year. Acres.
Sukkur		Shikarpur.	Raoti	8,029	13	...
			Jamishero	5,316	8	258
			Daresh	3,025	5	...
			Ubauro	3,150	5	...
			Mirpur	7,251	11	...
			Rahrarki...	1,654	3	...
			Reti	2,388	4	...
			Rangu	972	2	...
			Narli	1,376	2	...
			Sarhad	3,529	6	...
			Islam	2,064	3	...
			Jehanpur	4,340	7	...
			Bahab	8,585	13	...
			Budh	1,217	2	...
			Sadhuja	13,742	21	3,000
			Shahpur	9,915	15	2,500
			Panwhari	637	1	...
			Hussenbeli	3,407	5	...
			Azizpur	880	1	...
			Ding	1,518	2	...
			Syedpur	8,216	13	...
			Rohri	22,551	35	...
			Sultanpur	1,753	3	...
			Saliani...	5,014	8	...
			Ghotki	4,200	7	...
			Adilpur	12,674	20	...
			Wala Mahar	2,648	4	...
			Samowah	2,252	4	...
			Vasir	1,417	2	...
			Jarwar	2,839	4	...
			Abad	5,729	9	300
			Kadirdini Bindi	2,306	4	...
			Khia Bindi	3,318	5	300
			Shah	16,183	25	...
			Bindi Dharoja	7,504	12	600
			Kadrapur	2,564	4	...
			Mohro Mari	11,857	19	...
			Andaldal	12,643	20	...
			Bagarji	14,420	23	...
			Raiswah	905	1	...
			Lakhi	3,614	6	...
			Ghari Halim	2,096	3	...
			Kot Sultan	17,342	27	...
		Upper Sind Frontier.	Abad	1,127	2	...
			Mehrabpur	1,457	2	...
			Dilwarpur	1,439	2	...
			Milkiat Sircar	910	1	-29
			Bakapur	8,359	13	...
			Dilmurad	1,055	2	40
			Zangipur	5,359	8	...
			Sarki	3,706	6	...
			Beluchabad	1,100	2	...
			Korar	887	1	...
			Mirpur	...	...	6,978
			Karampur	...	...	6,060
			Jangan	...	...	2,291
			Total Sukkur Division...	2,72,439	426	22,356
Nushahro		Shikarpur.	Dosu	4,833	7	400
			Keti Ubhuro	5,575	9	...
			Kanuri	4,030	6	...
			Sharifpur	1,027	2	...
			Bahman	1,547	2	...
			Naoabad...	2,205	3	...
			Phati Bilawal	711	1	...
			Amroti	11,684	18	...
			Muso	5,930	9	...
			Kasimshah	2,107	3	...
			Nari	1,522	2	...
			Magsi	1,383	2	...
			Dangar	3,685	6	...
			Soi	5,108	8	...
			Budo Dero	1,555	2	...
			Ghanghorko	5,849	9	...
			Gaji Dero	4,333	7	...
			Garhi Yasin	...	...	25,328
			Carried over...	62,584	96	25,728

Conservator's Office,
Hyderabad, 10th September 1889.

...		8,029	13	
	150	5,424	8	Gained and lost by action of the river.
...		3,025	5	
...		3,150	5	
...		7,251	11	
...		1,654	3	
...		2,388	4	
...		972	2	
...		1,376	2	
...		3,529	6	
...		2,064	3	
...		4,340	7	
	600	7,985	12	Lost by action of the river.
...		1,217	2	
	600	16,142	25	Gained and lost by action of the river.
...		12,415	19	Gained by action of the river.
...		637	1	
	500	2,907	5	Lost by action of the river.
...		880	1	
...		1,518	2	
...		8,216	13	
...		22,551	35	
...		1,753	3	
...		5,014	8	
...		4,300	7	
...		12,674	20	
...		2,648	4	
...		2,252	4	
...		1,417	2	
...		2,839	4	
	150	5,879	9	Gained and lost by action of the river.
...		2,306	4	
...		3,618	6	Gained by action of the river.
	150	16,033	25	Lost by ditto. ditto.
	200	7,904	12	Gained and lost by ditto.
...		2,564	4	
...		11,857	19	
...		12,643	20	
...		14,420	23	
...		905	1	
...		3,614	6	
...		2,096	3	
...		17,342	27	
...		1,127	2	
...		1,457	2	
...		1,439	2	
...		930	1	2,203 A of 11th April 1888.
...		8,359	13	
...		1,104	2	5,787 of 27th August 1889.
...		5,359	8	
...		3,706	6	
...		1,100	2	
...		887	1	
...		6,978	11	
...		6,060	9	5,737 of 27th August 1888.
...		2,291	4	
	2,350	2,92,445	453	
	100	4,633	7	Gained and lost by action of the river.
...		5,575	9	
	100	3,930	6	Lost by action of the river.
...		1,027	2	
...		1,547	2	
...		2,205	3	
...		711	1	
...		11,634	18	
...		5,930	9	
...		2,107	3	
...		1,522	2	
...		1,383	2	
...		3,685	6	
...		5,103	8	
...		1,555	2	
...		5,349	9	
...		4,333	7	
...		25,328	40	3,707 of 6th June 1888.
	200	83,112	136	

		Brought forward...	62,584	96	25,728
Naushahro—*continued*	Hyderabad.	Bhour ...	8,833	14	200
		Muhbatdero	7,500	12	...
		Samtia ...	3,300	5	50
		Kamaldero	1,365	2	...
		Bhorti ...	7,200	11	200
		Dalipota...	867	1	...
		Khairodero	13,523	21	...
		Lalia ...	4,462	7	...
	Karachi.	Karampur	2,904	5	...
		Baghban	1,947	3	...
		Bhan ...	1,138	2	...
		Phaka ...	2,207	3	...
		Kalubori	748	1	...
		Pipri ...	925	1	...
		Total Naushahro Division...	1,19,509	184	26,178
Hyderabad	Hyderabad.	Lakhat ...	6,430	10	200
		Nasri ...	2,556	4	100
		Mad ...	2,692	4	...
		Mehrabpur	4,088	6	50
		Mari ...	16,303	25	100
		Pai ...	5,130	8	...
		Keti Jurio	2,025	3	...
		Rano ...	1,627	3	100
		Nurketi ...	3,418	5	...
		Kacho Nurketi	3,641	6	...
		Bhanote...	841	1	...
		Khanote	8,966	14	...
		Khobrani	760	1	...
		Sokhat ...	2,067	3	...
		Jakhri ...	1,926	3	...
		Matiari ...	5,354	8	...
		Ghali ...	4,041	6	...
		Miani ...	4,917	8	...
		Kathri ...	756	1	...
		Gundi ...	2,150	3	...
		Muhammad Khan	181	...	...
		Jam Sharo	292	...	..
		Shah Makai	411	1	...
		Keti Mehrani	5,503	9	..
	Karachi.	Gidarji ...	855	1	...
		Butto ...	7,903	12	1,300
		Manjhand	1,539	2	250
		Unarpur...	10,779	17	200
		Ghag ...	1,296	2	...
		Karokho...	1,701	3	...
		Total Hyderabad Division...	1,10,153	169	2,300
Jerruck.	Karachi.	Viran ...	8,362	13	...
		Sonda ...	2,114	3	...
		Hilaya ...	2,048	5	...
		Lalang ...	4,801	8	...
		Shah Lonko	1,690	3	...
		Garko ...	4,079	6	...
		Malir ...	24	...	...
		Kacho Abbahar	...	...	3,000
		Do. Surjani	...	...	3,410
		Do. Kot Almo	...	...	2,335
		Penah ...	6,169	10	...
		Susati ...	89	...	50
		Khirsar ...	1,380	2	...
		Huderani	5,511	9	...
		Surjani	1,364	2	...
		Ganj ...	1,493	2	20
		Hazari ...	2,483	4	...
		Makhulo...	496	1	...
		Laikpur ...	7,406	12	...
		Khadi ...	4,000	6	...
		Phatali ...	413	1	...
		Mulchand	5,454	9	...
	Hyderabad.	Husri ...	420	1	...
		Khatro ...	416	1	...
		Khathni ...	2,975	5	...
		Katiar ...	952	1	...
		Khirdahi ...	290	...	...
		Tikhur ...	1,709	3	...
		Khokhar...	1,556	2	...
		Budka Takar ...	975	2	...
		Total Jerruck Division...	69,569	111	8,875

No. 49.

SIND CIRCLE.

Forests, 1888-89.

Excluded or transferred to other heads.	Area on 1st March 1889.		No. and date of Notification of addition or transfer.	REMARKS.
Acres.	Acres.	Equivalent in square miles.		
200	88,112	136		
500	8,539	13		Gained and lost by action of the river.
50	7,450	12		Lost by action of the river.
10	3,340	5		Gained and lost by action of the river.
...	1,365	2		
200	7,200	11		Ditto.
...	867	1		
150	13,373	21		Lost by action of the river.
300	4,162	7		Ditto. ditto.
100	2,804	4		Ditto. ditto.
...	1,947	3		
...	1,138	2		
...	2,207	3		
...	748	1		
...	925	1		
1,510	1,44,177	222		
...	6,630	10		Gained by action of the river.
...	2,656	4		Ditto. ditto.
...	2,692	4		
...	4,138	6		Ditto. ditto.
...	16,403	26		Ditto. ditto.
...	5,130	8		
50	1,975	3		Lost by action of the river.
...	1,727	3		Gained ditto. ditto.
...	3,418	5		
3,641	...	...		Lost ditto. ditto.
...	841	1		
320	8,640	14		Lost by action of the river.
...	760	1		
..	2,067	3		
..	1,926	3		
...	5,354	8		
..	4,041	6		
...	4,917	8		
..	756	1		
.	2,150	3		
	181	..		
	292	...		
	411	1		
	5,503	9		
	855	1		
25	9,183	14		Gained and lost by action of the river.
10	1,779	3		Ditto. ditto. ditto.
15	10,964	17		Ditto. ditto. ditto.
	1,296	2		
	1,701	3		
4,061	1,08,392	167		
100	8,262	13		Lost by action of the river.
	2,114	3		
	2,948	5		
..	4,861	8		
	1,690	3		
	4,079	6		
	21	..		
	3,000	5		
	3,410	5	2309 of 17th April 1888.	
	2,335	4		
	6,169	10		
	139	..		Gained by action of the river.
	1,396	2		
	5,511	9		
	1,364	2		
40	1,473	2		Gained and lost by action of the river.
	2,482	4		
	496	1		
	7,406	12		
	4,000	6		
	413	1		
	5,454	9		
	420	1		
	416	1		
	2,975	5		
	952	1		
...	200	..		
...	1,709	3		
	1,556	2		
...	975	2		
140	78,244	125		

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Area of Protected Forests, 1888-89

Division or range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1888.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1889.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Sukkur	Upper Sind Frontier	Macaulay	183	...	...	...	183	...	}	
		Dickinson	585	1	...	...	585	1	}	
		Total...	768	1	...	...	768	1		

Hyderabad,
10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 50.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE, PROSECUTIONS FOR BREACHES OF FOREST RULES DURING 1888-89.

Forest Division and Civil District.	Cases pending from 1887-88.	New Cases of the Year.					Total cases.	Disposed of during the Year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Upper Sind Frontier District.														
Sukkur Division	1	...	64	...	...	64	65	36	50	25	45	61	95	4
Shikarpur District.														
Sukkur Division	3	...	12	5	3	20	23	10	23	9	51	19	74	4
Naushahro „	...	...	4	1	...	5	5	5	10	...	...	5	10	...
Hyderabad District.														
Naushahro Division	...	...	3	...	...	3	3	2	3	1	2	3	5	...
Hyderabad „	...	...	...	...	4	4	4	3	6	1	4	4	10	...
Karachi District.														
Naushahro Division	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hyderabad „	...	...	6	...	...	6	6	5	10	1	1	6	11	...
Jerruck „	...	...	1	2	...	3	3	2	9	1	8	3	17	...
Total ...	4	...	90	8	7	105	109	63	111	38	111	101	222	8

Hyderabad,
10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 51.

FOREST DEPARTMENT, SIND CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1888, to accompany report for the year 1888-89.

Division.	Forest tracts.	Year in which commenced.	Area actually protected up to 15th June 1888.	During dry season of 1889.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failure.	Area actually protected.		
Sukkur	Mirpur	Not known ...	43,202	43,202	180	43,022		
	Ghotki		26,030	26,030	5	26,025		
	Sadhuja		81,235	81,235	3,034	78,201		
	Abad		50,161	50,161	165	49,996		
	Sukkur		27,063	27,063	558	26,505		
	Shikarpur	1886-87	23,957	23,957	2	23,955		
	Jacobabad	1885-86	14,080	14,080	2	14,078		
	Thul		27,485	27,485	.....	27,485		
Naushahro	Naushahro Abro	1888-89	25	25	25	.....		
	Bakrani	Not known ...	18,103	18,103	247	17,856		
	Tigir		.....	.....	.....	.....		
	Kandiaro		20,446	20,446	1,681	18,765		
	Sehwan		310	310	125	185		
Hyderabad	Rano	Do.	10,720	10,720	401	10,319		
	Miani		3,433	3,433	150	3,283		
	Hyderabad		.....	.....	.....	.....		
	Kotri		2,000	2,000	.....	2,000		
	Unarpur		13,050	13,050	462	12,588		
Jerruck	Viran	Do.	3,083	3,083	15	3,068		
	Shahbander		8,488	8,488	83	8,405		
	Mulchand		6,020	6,020	140	5,880		
	Katiar		1,603	1,603	.....	1,603		
		Total.....	3,80,494	3,80,494	7,275	3,73,219		

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 52.

AREA OF PLANTATIONS, 1888-89.

ANNUAL FORM No. 52.

FOREST DEPARTMENT, SIND CIRCLE. AREA OF PLANTATIONS, 1888-89.

Divisions.	Name of Plantation.	Area in Acres				Receipts	Charges	Remarks.
		On 1st April 1888.	Added during the year.	Excluded during the year.	Area on 31st March 1889.	of the year.		
	Regular Plantations.							
Sukkur ...	Aliwahan garden	20	...	...	20	8	84	
	Rahuja Nursery	10	...	...	10	342	505	
	Sadhuja Plantation	25	...	...	25	...	84	
	Shah do.	7	...	...	7	...	84	
Hyderabad ...	Devi-Devi Plantation	13	...	...	13	487	196	
	Bamboo do	13	...	...	13	...	96	
	Miani Bungalow, Mango and Monument Gardens ...	12	...	...	12	239	628	
Jerruck ...	Malir Nursery	24	...	...	24	20	101	
	Sonda do.	5	...	...	5	213	167	
	Total ...	129	...	...	129	1,309	1,945	
	Cultural Operation.							
Sukkur ...	Abad	10	25	...	35	...	...	
	Bindi Dhareja	33	81	...	114	...	84	
	Shah	...	8	...	8	...	...	
	Mohro Mari	...	45	...	45	...	...	
	Ding	25	...	25	...	...	...	25 acres were opened to grazing, the growth attained such dimension as not to require any protection.
	Rohri	25	20	...	45	...	...	
	Syedpur	4	4	...	8	...	...	
	Changin	2	...	...	2	...	...	
	Saliani	2	18	...	20	...	...	
	Sultanpur	...	10	...	10	...	...	
	Azizpur	...	20	...	20	...	...	
	Adilpur	15	20	...	35	...	58	
	Samowah	7	15	...	22	...	...	
	Dickinson	...	3	...	3	...	...	
	Total ...	123	269	25	367	...	142	
Naushahro ...	Bhour	24	...	...	24	...	...	
	Mohbatdero	50	800	50	800	...	...	50 acres were opened to grazing.
	Bhorti	290	...	290	...	...	...	290 Do. do.
	Dalipota	...	125	...	125	...	...	
	Karampur	25	...	...	25	...	...	
	Phuka	...	145	...	145	...	5	

	Pipri	...	...	...	...	...	140	...	140	...	5			
	Sharifpur	...	...	...	...	45	...	...	45	...	...			
	Naobad	...	...	...	...	16	...	16	...	...	...	16	Do.	do
	Amrote	...	...	...	...	...	60	...	60	...	7			
	Gajidero	...	...	...	...	...	10	...	10	...	6			
	Bhan	...	...	...	...	...	68	...	68	...	4			
				Total	...	450	1,348	356	1,442	...	27			
Hyderabad...	Mari	...	...	...	...	7	...	...	7	...	...			
	Nurketi	...	...	...	...	320	20	...	340	...	...			
	Mad...	...	...	...	...	166	...	...	166	...	...			
	Matiari	...	...	...	...	320	...	...	320	...	...			
	Miani	...	...	...	...	640	50	...	690	...	...			
	Mahamad khan	...	...	...	...	181	...	...	181	...	...			
	Shah Makai	...	...	...	...	43	...	...	43	...	...			
	Jamshoro	...	...	...	...	23	...	...	23	...	...			
	Butto	...	...	...	...	1,440	35	...	1,475	...	...			
	Manjhand	...	...	...	...	108	...	...	108	...	...			
	Unarpur	...	...	...	...	640	25	...	665	...	...			
				Total	...	3,888	130	...	4,018	...	...			
Jerruck ...	Mulchand	...	...	...	...	229	3	...	232	...	...			
	Khadi	...	...	...	...	2,006	...	2,006	...	...	...	2,006	Do.	do.
	Penah	...	...	...	...	13	...	...	13	...	...			
	Laikpur	...	...	...	...	117	160	...	277	...	...			
	Viran	...	...	...	...	785	...	...	785	...	...			
	Garko	...	...	...	...	561	37	...	598	...	...			
	Shah Lonko	...	...	...	...	131	59	...	190	...	...			
	Sonda	...	...	...	...	79	9	...	88	...	...			
	Hilaya	...	...	...	...	197	...	...	197	...	...			
	Tikhar	...	...	...	...	24	...	...	24	...	...			
	Khathar	...	...	...	...	65	2	...	67	...	...			
	Katiar	...	...	...	...	24	...	...	24	...	...			
	Budka Takar	...	...	...	...	82	...	...	82	...	...			
	Khatro	...	...	...	...	250	...	250	...	...	...	250	Do.	do.
	Lalang	...	...	...	...	15	...	...	15	...	...			
				Total	...	4,578	270	2,256	2,592	...	...			

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 54.

FOREST DEPARTMENT, SIND CIRCLE, OUTTURN OF TIMBER AND FIREWOOD DURING THE YEAR 1888-89.

Division.	Description of Material.	Outturn in Cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers.	Free grants.	Right holders.	
Sukkur	Babul logs	2,725	...	...	2,725	1,533	854	13	...	
	Bahan logs	6,992	...	...	6,992	3,314	3,061	148	...	
	Tali logs	95	...	...	95	797	95	...	..	797 C. ft. removed out of last year's outturn.
	Ber logs	...	...	...	...	18	..	...	...	18 Do. do.
	Bahan dasas	1,411	...	...	1,411	908	25	...	..	
	Babul dasas	225	...	...	225	29	...	...	...	
	Sereh logs	...	...	...	...	122	...	...	...	122 Do. do.
	Babul posts	221	...	...	221	45	12	...	...	
	Bahan posts	5,256	...	...	5,256	4,249	95	24	...	
	Bahan rafters	16,543	...	...	16,543	11,966	2,194	325	...	
	Babul cart axles	...	167	..	167	372	3	...	...	208 Do. do.
	Jhau rafters	...	56,087	...	56,087	1,065	51,983	3,039	...	
	Tali pieces	11	...	...	11	11	...	...	...	
	Kandi logs	852	...	...	852	...	659	193	...	
	Jhau, Asri and Lai logs	2,589	...	...	2,589	...	2,399	190	...	
	Kandi rafters	327	...	...	327	...	327	..	...	
	Props	2,128	...	...	2,128	...	2,092	36	...	
	Jhau posts.	75	...	..	75	...	75	...	...	
	Kirrir rafters	...	820	...	820	..	820	..	...	
	Firewood	...	40,11,545	...	40,11,545	12,75,817	26,67,451	338	...	
	Locomotive fuel...	...	10,36,481	...	10,36,481	7,91,881	59,090	..	...	
	Charcoal	...	9,752	...	9,752	....	9,752	...	...	
	Total ...	39,450	51,14,852	..	51,54,302	20,92,127	28,60,987	4,306	..	
Naushahro	Babul logs	6,233	...	...	6,233	603	1,946	3,539	...	
	Bahan logs	380	...	...	380	342	38	...	...	
	Lai logs	10	...	...	10	...	10	...	...	
	Ber logs	2	...	...	2	...	2	...	...	
	Kandi logs	704	...	...	704	477	227	...	...	
	Kandi pieces	7	...	...	7	...	7	...	..	
	Babul posts	110	...	...	110	28	...	82	...	
	Bahan posts	1,122	...	...	1,122	486	124	...	...	
	Bahan rafters	3,923	...	...	3,923	8,585	200	...	...	4,862 Do.
	Thin Bahan rafters	7,725	...	...	7,725	7,625	...	...	...	
	Kirrir rafters	...	2,263	...	2,263	205	2,058	...	...	

	Jhau rafters	...	7,424	...	7,424	2,507	1,824	3,910	...	817	Do.	do.
	Jhau bairs	...	2	...	2	...	2	...	...			
	Firewood	...	4,67,066	...	4,67,066	87,555	4,05,641	...	...	26,130	Do.	do.
	Locomotive fuel...	...	4,98,247	...	4,98,247	4,35,947	...	...	...			
	Charcoal	...	20,498	...	20,498	19,836	662	...	...			
	Total ...	20,216	9,95,500	...	10,15,716	5,64,196	4,12,741	7,531	...			
Hyderabad	Babul logs	10,478	...	...	10,478	7,008	5,895	483	...	2,908	Do.	do.
	Babul bolsters	472	...	...	472	581	...	...	...	109	Do.	do
	Babul sleepers	15,039	...	..	15,039	14,007	...	...	...			
	Babul slabs	125	...	...	125	361	7	...	...	243	Do.	do.
	Babul rafters	...	...	...	...	3	...	...	...	3	Do.	do.
	Babul planks	...	...	...	...	32	...	...	...	32	Do.	do.
	Bahan logs	6	...	...	6	..	6	...	...			
	Bahan dasas	529	...	...	529	529	...	...	...			
	Bahan posts	5,751	...	...	5,751	3,504	2,244	...	...			
	Bahan rafters	90,119	...	...	90,119	80,750	5,036	...	...			
	Jhau rafters	5,440	...	...	5,440	3,250	2,040	150	...			
	Jhau posts	...	...	...	...	46	...	...	...	46	Do.	do.
	Kirrir rafters	634	...	...	634	80	634	...	...	80	Do.	do.
	Jhau bairs	37	...	...	37	...	36	1	...			
	Kandi logs	70	...	...	70	...	31	39	...			
	Babul posts	423	...	...	423	...	423	...	...			
	Firewood	...	15,56,887	...	15,56,887	14,10,932	3,98,095	...	...	2,52,140	Do.	do.
	Charcoal	...	4,689	...	4,689	17,829	...	...	...	13,140	Do.	do.
	Locomotive fuel...	...	5,44,622	...	5,44,622	4,83,932	...	...	...			
	Total ...	1,29,123	21,06,198	...	22,35,321	20,22,844	4,14,447	673	...			
Jerruck	Babul logs	10,338	...	...	10,338	7,607	2,171	243	...			
	Babul posts	...	548	...	548	840	548	...	...	840	Do.	do.
	Jhau posts	...	16	...	16	168	16	...	...	168	Do.	do.
	Jhau rafters	...	438	...	438	6	438	...	...	6	Do.	do.
	Babul bolsters	...	..	...	...	346	...	...	...	346	Do.	do.
	Bahan rafters	...	250	...	250	100	250	...	...	100	Do.	do.
	Bahan thin rafters	...	193	...	193	350	193	...	...	350	Do.	do.
	Kandi logs	...	...	...	...	136	...	...	...	136	Do.	do.
	Babul slabs	...	...	...	..	350	...	...	...	350	Do.	do.
	Jhau bairs	...	1	...	1	...	1	...	...			
	Kirrir rafters	...	500	...	500	500	...	...	...			
	Firewood	...	10,21,633	...	10,21,633	10,95,818	28,174	...	...	1,02,359	Do.	do.
	Locomotive fuel...	....	93,480	...	93,480	36,228	...	...	...			
	Charcoal	...	1,48,509	...	1,48,509	1,43,735	...	...	...			
	Total	10,338	12,65,568	...	12,75,906	12,86,184	31,791	243	...			

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 55.

FOREST DEPARTMENT, SIND CIRCLE, OUTTURN OF MINOR FOREST PRODUCE.

Division.	Description of produce.	Produce removed or utilized.										Remarks.
		By Government agency.		By purchasers.		By Free grant.		By right holders.		Total.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
Sukkur	Kanh grass	...	...	701	44	73	5	...	...	774	49	
	Reed grass	...	...	197	12	...	...	...	...	197	12	
	Munj reed	...	...	Contract.	669	...	...	...	...	...	669	
	Jhau brushwood	...	...	3,737	239	196	12	...	...	3,933	251	
	Babul bark, Mds.	...	...	33	9	...	...	...	...	33	9	
	Babul, Kandi and Bahan pods	...	...	Contract.	444	...	...	...	...	...	444	
	Compensation	...	...	...	11	...	...	...	...	...	11	
	Grass bundles	...	...	2,820	176	...	...	...	...	2,820	176	
	Branches of trees	...	...	...	44	...	...	...	...	...	44	
	Do. do. for hedges	...	...	C. ft. 1,000	7	...	...	...	...	C. ft. 1,000	7	
	Fruit, &c.	...	350	...	20	...	...	...	...	...	370	
	Tali, Nim and Sereh seedlings	523	145	...	...	...	...	...	...	523	145	
	Grazing fees	...	...	...	17,656	...	...	...	...	...	17,656	
	Total	523	495	8,488	19,331	269	17	...	...	9,280	19,843	
Naushahro	Babul pods	...	...	Contract.	3,518	...	...	...	...	...	3,518	
	Sur grass	...	...	Do.	487	...	...	...	...	...	487	
	Do.	...	...	120	10	...	...	...	...	120	10	
	Ber fruit	...	...	Contract.	14	...	...	...	...	...	14	
	Branches of trees	...	...	87	42	...	...	...	...	87	42	
	Babul pegs	...	...	2,500	25	...	...	...	...	2,500	25	
	Babul bark	13	2	39	5	...	...	...	...	52	7	
	Jhau brushwood	340	27	116	14	100	6	...	...	556	47	
	Kanh grass	96	9	105	6	500	31	...	...	701	46	
	Babul seed	1	1	...	...	...	...	...	...	1	1	
	Fruit (Lotus)	...	...	Contract.	5	...	...	...	...	Contract.	5	
	Grazing fees	...	...	...	8,875	...	...	...	...	...	8,875	
	Total	450	39	2,967	13,001	600	37	...	...	4,017	13,077	

Hyderabad	Babul seed	...	...	...	...	...	...	...	...	...	...
	Babul bark	598	598	5,170	1,228	...	...	...	...	5,768	1,826
	Tooth brushes	10	15	380	178	...	...	...	...	390	193
	Brushwood	...	...	2,107	143	...	...	...	...	2,107	143
	Kanh and Sur grass	...	...	952	93	46	3	...	...	998	96
	Reed	...	...	284	10	...	...	...	...	284	10
	Compensation	...	...	...	106	...	...	...	...	...	106
	Babul pods	...	...	Contract.	9,256	...	...	...	...	Contract.	9,256
	Lac	...	...	25	51	...	...	...	...	25	51
	Do.	...	...	Contract.	778	...	...	...	...	Contract.	778
	"Kinro"	...	...	Do.	25	...	...	...	...	"	25
	Mangoes	...	...	Do.	239	...	...	...	...	"	239
	Lotus	...	...	Do.	36	...	...	...	...	"	36
	Honey	...	...	Do.	6	...	...	...	...	"	6
	Kamo	...	...	42	3	...	...	...	...	42	3
	Grazing fees	...	...	...	16,379	...	...	...	...	...	16,379
	Total	608	613	8,960	28,531	46	3	...	...	9,614	29,147
Jerruck	Babul seed	2	2	...	...	...	...	...	...	2	2
	Jhau brushwood	...	...	80	5	...	...	...	...	80	5
	Kanh grass	...	...	64	4	...	...	...	...	64	4
	Kamo	...	...	48	3	...	...	...	...	48	3
	Reed grass	...	...	208	13	...	...	...	...	208	13
	Potash	...	...	280	70	...	...	...	...	280	70
	Fruit	Contract.	...	Contract.	240	...	...	...	...	Contract.	240
	Babul bark, Mds.	...	...	225	23	...	...	...	...	225	23
	Manure, Mds.	...	...	1,500	23	...	...	...	...	1,500	23
	Babul pods	...	...	Contract.	3,630	...	...	...	...	Contract.	3,630
	Jhau Bairs	...	...	1	1	...	...	...	...	1	1
	Grazing fees	...	...	...	14,270	...	...	...	...	...	14,270
	Total	2	2	2,406	18,282	...	...	...	...	2,408	18,284

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 56.

Forest Department, Sind Circle.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1888-89.

	Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	Balance at the commencement of the year.				
	Sale Depôts.				
Sukkur Division.	Babul logs	644	4,778		
	Bahan logs	424	3,380		
	Tali logs	125	829		
	Ber logs	1	18		
	Bahan dasas	139	451		
	Bahan posts	10,437	...		
	Bahan rafters	2,055	...		
	Babul cart axles	662	...		
	Sereh logs	11	122		
				14,498	9,578
	Forest Depôts.				
	Bahan rafters	20	...		
				20	...
	Sale Depôts.				
Naushahro Division.	Babul logs	20	...		
	Babul sleepers	28	...		
	Bahan posts	580	...		
	Bahan rafters	13,415	...		
	Jhau rafters	1,900	...		
				15,943	...
	Forest Depôts.				
	Babul logs	20	...		
				20	...

	Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	TIMBER.				
	Removed by Purchasers from Depôts.				
	Babul logs	1,359	14,730		
	Do.	21	....		
	Bahan logs	391	3,267		
	Tali logs ...	119	797		
	Sereh logs	11	122		
	Ber logs ...	1	18		
	Babul bolsters	182	860		
	Babul planks	52	...		
	Bahan dasas	1,352	149		
	Jhau posts	345	...		
	Babul sleepers	4,002	...		
	Babul cart axles	744	...		
	Babul posts	1,429	...		
	Bahan posts	13,069	..		
	Bahan rafters	1,96,616	...		
	Babul rafters	6	..		
	Jhau rafters	10,276	..		
	Kirir rafters	1,160	...		
	Babul slabs	700	..		
	Tali pieces	21	..		
				2,31,856	19,943
	Sold Locally.				
	Babul logs	488	1,964		
	Do.	3	...		

			Sale Depôts.								
Hyderabad Division.	Babul logs	...	...	...	...	417	5,934				
	Do.	...	...	...	...	1	...				
	Kandi logs	...	...	...	...	34	...				
	Babul planks	...	...	...	...	52	...				
	Babul bolsters	...	...	...	...	193	911				
	Babul sleepers	...	...	...	...	1	...				
	Babul outer slabs		...	...	...	708	...				
	Jhau posts	...	...	...	...	74	...				
	Bahan posts	...	...	...	...	1,578	...				
	Bahan rafters	...	...	...	...	43,000	...				
	Kirir rafters	...	...	...	...	161	...				
	Babul rafters	...	...	..	...	6	...				
	Kirir knees	...	..	...	...	50	...				
								46,275	6,845		
			Forest Depôts.								
	Babul logs	...	...	...	...	11	...				
	Babul sleepers	...	...	...	...	4	...				
	Babul outer slabs		...	...	...	22	...				
								37	...		
			Sale Depôts.								
Jerruck Division.	Babul logs	...	...	...	..	21	229				
	Babul posts	...	...	...	...	1,356	...				
	Jhau posts	...	...	...	...	271	...				
	Jhau rafters	...	...	...	...	13	...				
								1,661	229		
			Forest Depôts.								
	Babul logs	...	...	...	...	303	3,802				
	Babul outer slabs		...	...	...	700	...				
								1,003	3,802		
Sukkur Division.	Bahan logs	...	...	...	...	91	389				
	Kandi logs	...	...	...	...	454	477				
	Babul posts	...	...	...	...	45	...				
	Bahan posts	...	...	...	...	221	...				
	Bahan rafters	...	...	...	...	6,886	...				
	Bahan thin rafters	...	...	...	...	15,250	...				
	Jhau rafters	...	...	...	...	3,380	...				
	Babul slabs	..	..	..	...	722	..				
	Kirir rafters	...	...	...	...	410	...				
										27,950	2,830
			Converted in Sale Depôts.								
	Kandi logs	...	...	..	...	34	...				
										34	...
			Used by Department.								
	Babul logs	...	...	...	...	1	11				
	Bahan logs	...	...	...	...	2	17				
	Bahan rafters	...	...	...	...	75	...				
										78	28
			BALANCE AT CLOSE OF THE YEAR.								
			Sale Depôts.								
	Tali logs...	...	...	..	...	6	32				
	Babul logs	...	...	...	...	726	5,092				
	Bahan logs	...	...	...	...	418	3,832				
	Bahan dasas	...	...	...	...	328	1,125				
	Bahan posts	...	...	...	...	11,869	...				
	Bahan rafters	...	...	...	...	6,097	...				
	Babul cart axles		...	..	...	146	...				
	Babul posts	...	...	...	...	254	...				
										19,844	10,
			Forest Depôts.								
	Bahan rafters	...	...	..	...	20	...				
	Babul posts	...	...	...	...	10	...				
										30	...

Received from Forests in Sale Depôts.

Babul logs	1,247	12,497	
Bahan logs	387	3,736	
Babul bolsters	100	472	
Bahan dasas	1,541	823	
Babul sleepers	4,297	...	
Babul cart axles	228	...	
Babul posts	327	...	
Bahan posts	15,331	...	
Bahan rafters	1,98,344	...	
Babul logs	2	...	
Jhau rafters	8,630	...	
Kirir rafters	1,000	...	
Babul slabs	78	...	
Tali pieces	21	...	
		2,32,033	17,528

Received in Forest Depôts.

Babul logs	512	2,121	
Bahan logs	91	389	
Kandi logs	454	477	
Babul posts	55	...	
Bahan posts	221	...	
Bahan rafters	7,016	...	
Kirir rafters	410	...	
Bahan thin rafters	15,250	...	
Jhau rafters	3,380	...	
Babul slabs	158	...	
		27,547	2,987
Total Timber.....	...	...	3,39,037	40,969

Naushahro Division.

Sale Depôts.

Babul sleepers	28	...		
Bahan posts	1,406	...		
Bahan rafters	3,560	...		
Jhau rafters	267	...		
Bahan thin rafters	200	...		
			5,461	..

Forest Depôts.

Babul logs	30	165		
Bahan rafters	130	...		
			160	165

Hyderabad Division.

Sale Depôts.

Babul logs	205	3,051		
Bahan posts	1,582	...		
Bahan rafters	50,766	...		
Kirir rafters	1	...		
Babul slabs	86	..		
Babul logs	2	...		
Babul bolsters	111	523		
Babul sleepers	296	..		
Kirir knees	50	..		
			53,099	3,574

Forest Depôts.

Babul logs	8	...		
Babul slabs	158	...		
Babul sleepers	4	...		
			170	

FIREWOOD AND CHARCOAL.

Balance at commencement of the Year.

		Sale Depôts.					
Sukkur Division.	Firewood	...	...	...	49,202	...	
	Locomotive fuel	...	...	...	...	3,403	49,202
		Forest Depôts.					
	Firewood	...	...	...	15,427	...	
	Locomotive fuel	...	...	...	...	90,227	15,427
		Sale Depôts.					
Naushahro Division.	Firewood	...	...	Mds.	3,309	...	3,309
		Forest Depôts.					
	Firewood	...	...	...	4,970	...	
	Locomotive fuel	...	...	...	...	1,63,450	4,970
		Sale Depôts.					
Hyderabad Division.	Firewood	...	...	...	73,334	...	
	Charcoal	...	...	...	199	...	
	Locomotive fuel	...	...	...	...	1,248	
	Babul seed	...	...	...	166	...	73,699
		Forest Depôts.					
	Firewood	...	...	...	1,473	...	
	Charcoal	...	...	...	2,900	...	
	Locomotive fuel	...	...	...	...	5,250	4,373

		Sale Depôts.					
Jerruck Division.	Babul logs	...	...	...	38	554	38
		Forest Depôts.					
	Babul logs	...	...	...	317	3,794	317
				Total Timber...	..	..	3,39,037

FIREWOOD AND CHARCOAL.

Removed by Purchasers from Sale Depôts.

Firewood	...	...	...	3,97,956	..
Locomotive fuel	...	...	...	..	2,88,376
Charcoal...	...	...	...	920	..
Babul bark	...	...	...	598	..
					3,99,474
	Forest Depôts.				
Firewood	...	...	...	1,33,596	..
Locomotive fuel	...	...	...	...	17,03,189
Charcoal ...	...	...	...	39,891	..
Jhau brushwood	...	...	...	340	...
Tooth brushes	...	...	...	10	...
Kanh grass	...	...	...	96	...
Babul bark	...	...	...	13	...
Babul seed	...	...	...	193	...
					1,73,639
	Converted into				
Locomotive fuel	...	...	...	...	3,000
					..

38	554
317	3,794
3,39,037	40,969
3,99,474	2,88,376
1,73,639	17,03,189
..	3,000

	Sale Depôts.											
Jerruck Division.	Firewood	...	156	...	156	...						
	Forest Depôts.											
	Firewood	...	54,621	...								
	Charcoal	...	976	...								
	Babul seed	...	588	...								
	Locomotive fuel	...	...	85,120	56,185	85,120						
	Received from Forests in Sale Depôts.											
	Firewood	...	3,67,099	..								
	Locomotive fuel	...	...	3,55,280								
	Charcoal	...	900	...								
	Babul bark	..	598	...	3,68,597	3,55,280						
	Received in Forest Depôts.											
	Firewood	...	1,24,017	...								
	Locomotive fuel	...	...	19,96,880								
	Charcoal	...	37,552	...								
	Jhau brushwood	..	340	..								
	Kanh grass	...	96	...								
	Babul seeds	...	115	...								
	Babul bark	...	13	...								
	Tooth brushes	...	10	...	1,62,143	19,96,880						
	WRITTEN OFF.											
	Forest Depôts.											
	Firewood...	...	4,505	...								
	Locomotive fuel	..	...	7,271								
							4,505	7,271				
	Converted in Forest Depôts.											
	Firewood	...	300	...								
							300	...				
	Transferred to other Depôts.											
	Firewood	...	3,186	...								
	Babul seed	...	111	...								
	Locomotive fuel	...	...	24,252								
							3,297	24,252				
	Used by Department.											
	Babul seed	...	55	...								
							55	...				
	BALANCE AT CLOSE OF THE YEAR.											
	Sale Depôts.											
Sukkur Division.	Firewood	...	58,767	...								
	Locomotive fuel	...	...	12,145								
							58,767	12,145				
	Forest Depôts.											
	Firewood	..	13,402	...								
	Locomotive fuel	...	...	2,46,220								
							13,402	2,46,220				
	Sale Depôts.											
Naushahro Division.	Firewood	...	281	...								
							281	...				
	Forest Depôts.											
	Firewood	...	4,127	...								
	Locomotive fuel	...	...	2,25,750								
	Babul seed	...	35	...								
							4,162	2,25,750				

Received by conversion in Sale Depôts.														
Firewood...	...	1,280	...	1,280										
Received by conversion in Forest Depôts.														
Firewood...	400	...	400	...										
					Hyderabad Division.	*Sale Depôts.*								
						Firewood				33,921	...			
						Locomotive fuel				...	60,690			
						Babul seed				55	...			
						Charcoal				179	...			
												34,155	60,690	
						Forest Depôts.								
						Firewood				2,398	...			
												2,398	...	
					Jerruck Division.	*Sale Depôts.*								
						Firewood				1,875	...			
												1,875	...	
						Forest Depôts.								
						Firewood				39,694	...			
						Locomotive fuel				...	1,31,245			
						Charcoal				2,037	...			
						Babul seed				420	...			
												42,151	1,31,245	
Grand Total.....	...	...	7,38,461	27,02,138		Grand Total.....				...	...	7,38,461	27,02,138	

Hyderabad,
10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 57.

Forest Department, Sind Circle.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1888-89.

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Sukkur Division.	*Sale Depôts.*								
	Babul logs	644	4,778	2,389	726	5,092	2,546	...	...
	Bahan logs	424	3,380	1,680	418	3,832	1,916	...	...
	Tali logs	125	829	233	6	32	7	...	...
	Bahan and Babul Dasas	139	451	104	328	1,125	247	...	...
	Babul posts	...	...	...	254	...	81	...	...
	Bahan posts	10,437	...	4,175	11,869	...	4,748	...	...
	Bahan rafters	2,055	...	239	6,097	...	854	...	...
	Babul cart axles	662	...	38	146	...	37	...	...
	Sereh logs	11	122	27	...	...	...	...	...
	Ber logs	1	18	3	...	...	...	...	...
	Total timber...	14,498	9,578	8,888	19,844	10,081	10,436	1,548	...
	Forest Depôts.								
	Bahan rafters	20	...	2	20	...	2	...	...
	Babul posts	...	...	...	10	...	2	...	...
	Total timber...	20	...	2	30	...	4	2	...
	Sale Depôts.								
	Firewood	49,202	...	8,856	58,767	...	10,578	...	...
	Locomotive fuel	...	3,403	174	...	12,145	638	...	...
	Total firewood...	49,202	3,403	9,030	58,767	12,145	11,216	2,186	...
	Forest Depôts.								
	Firewood	15,427	...	2,777	13,402	...	1,608	...	...
	Locomotive fuel	...	90,227	3,338	...	2,46,220	9,110	...	...
	Total firewood...	15,427	90,227	6,115	13,402	2,46,220	10,718	4,603	...
Naushahro Division.	*Sale Depôts.*								
	Babul logs	20	...	2	...	...	...	...	...
	Babul sleepers	28	...	50	28	...	50	...	...
	Bahan posts	580	...	94	1,406	...	228	...	...
	Bahan rafters	13,415	...	1,362	3,560	...	362	...	...
	Bahan thin rafters	...	...	...	200	...	12	...	...
	Jhau rafters	1,900	...	66	267	...	9	...	...
	Total timber...	15,943	...	1,574	5,461	...	661	...	913
	Forest Depôts.								
	Babul logs	20	...	15	30	165	25	...	...
	Bahan rafters	...	...	...	130	...	4	...	...
	Total timber...	20	...	15	160	165	29	14	...
	Sale Depôts.								
	Firewood	3,309	...	596	281	...	51	...	545
	Forest Depôts.								
	Firewood	4,970	...	311	4,127	...	415	...	...
	Locomotive fuel	...	1,63,450	5,230	...	2,25,750	7,716	...	...
	Babul seed	...	...	...	35	...	52	...	...
	Total firewood...	4,970	1,63,450	5,541	4,162	2,25,750	8,183	2,642	...

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor on the year.	Against the year.
Hyderabad Division.	*Sale Depôts.*								
	Babul logs	417	5,934	4,450	205	3,051	1,525	...	...
	Babul logs	1	...	6	2	...	2	...	...
	Bahan posts	1,578	...	631	1,582	...	633	...	...
	Bahan rafters	43,000	...	4,730	50,766	...	5,584	...	...
	Babul sleepers	1	...	3	296	...	888	...	...
	Babul outer slabs	708	...	140	86	...	21	...	...
	Babul planks	52	...	26	...	...	...	...	...
	Jhau posts	74	...	6	...	...	...	...	...
	Babul bolsters	193	911	1,139	111	523	523	...	...
	Babul rafters	6	...	1	...	...	...	...	...
	Kirir knees	50	...	3	50	...	3	...	...
	Kirir rafters	161	...	6	1	...	...	...	...
	Kandi logs	34	...	17	...	...	...	...	...
	Total timber...	46,275	6,845	11,158	53,099	3,574	9,179	1,979	...
	Forest Depôts.								
	Babul logs	11	...	8	8	...	6	...	...
	Babul sleepers	4	...	8	4	...	8	...	...
	Babul outer slabs	22	...	2	158	...	5	...	...
	Total timber...	37	...	18	170	...	19	1	...
	Sale Depôts.								
	Firewood .....Mds...	73,334	...	13,194	33,921	...	6,106	...	...
	Locomotive fuel	...	1,248	62	...	60,690	2,367	...	...
	Charcoal	199	...	112	179	...	100	...	...
	Babul seed	166	...	83	55	...	27	...	...
	Total firewood, &c...	73,699	1,248	13,451	34,155	60,690	8,600	...	4,851
	Forest Depôts.								
	Firewood	1,473	...	148	2,398	...	240	...	...
	Locomotive fuel	...	5,250	115	...	...	...	...	...
	Charcoal	2,900	...	815	...	...	...	...	...
	Total firewood, &c...	4,373	5,250	1,078	2,398	...	240	...	838
Jerruck Division.	*Sale Depôts.*								
	Babul logs	21	229	86	38	554	583	...	...
	Babul posts	1,356	...	68	...	...	...	...	...
	Jhau posts	271	...	14	...	...	...	...	...
	Jhau rafters	13	...	1	...	...	...	...	...
	Total timber...	1,661	229	169	38	554	583	414	...
	Forest Depôts.								
	Babul logs	303	3,802	475	317	3,794	474	...	...
	Babul slabs	700	...	44	...	...	...	...	...
	Total timber...	1,003	3,802	519	317	3,794	474	...	45
	Sale Depôts.								
	Firewood	156	...	28	1,875	...	337	309	...
	Forest Depôts.								
	Firewood	54,621	...	6,554	39,694	...	4,763	...	...
	Locomotive fuel	...	85,120	2,571	...	1,31,245	3,345	...	...
	Charcoal	976	...	351	2,037	...	733	...	...
	Babul seed	588	...	294	420	...	210	...	...
	Total firewood, &c...	56,185	85,120	9,770	42,151	1,31,245	9,051	...	719

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1888-89.

BUDGET HEADS.	Direction.	Hyderabad Division.	Jerruck Division.	Naushahro Division.	Sukkur Division.	Total during 1887-88.
REVENUE.						
I. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—						
a. Timber	..	39,116 3 7	13,038 6 9	2,795 1 1	8,913 14 10	63,863 10 3
b. Firewood and Charcoal	..	60,420 2 8	48,700 12 6	17,747 3 0	69,345 4 7	1,96,303 6 9
c. Bamboos	..	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	612 10 0	2 0 0	38 13 0	495 6 9	1,148 13 9
II. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS—						
a. Timber	...	2,514 9 2	933 9 0	711 13 9	5,231 3 10	9,391 3 9
b. Firewood and Charcoal	...	4,009 2 0	368 6 11	3,799 5 4	25,484 5 11	33,661 4 2
c. Bamboos	...	...	...	...	...	...
d. Grazing and fodder Grass	...	16,379 2 0	14,269 12 0	8,875 4 4	17,655 14 3	57,180 0 7
e. Other minor produce	...	12,152 3 11	4,012 1 3	4,125 10 6	1,675 1 0	21,965 0 8
III. CONFISCATED, DRIFT AND WAIF WOOD	...	5 0 0	2 0 8	..	27 11 0	34 11 8
IV. REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—						
a. Duty on Foreign Timber and other Forest produce	...	...	..	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...
V. MISCELLANEOUS—						
a. Fines and forfeitures	...	...	...	...	...	...
b. Refunds	29 12 11	...	49 1 6	...	17 8 5	96 6 10
c. Other sources	.	5,516 3 3	2,885 15 11	11,205 3 5	12,615 7 0	32,222 13 7
Total Revenue	29 12 11	1,40,725 4 7	84,352 2 6	49,298 6 5	1,41,461 13 7	4,15,867 8 0
EXPENDITURE.						
A. CONSERVANCY AND WORKS.						
I. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—						
a. Timber	...	14,732 15 9	8,984 12 5	469 0 4	3,242 11 9	27,429 8 3
b. Firewood and Charcoal	..	39,027 15 4	31,691 8 4	15,175 7 3	58,494 10 7	1,44,389 9 6
c. Bamboos	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	536 13 7	14 12 0	8 15 0	8 8 0	569 0 7
II. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS.	...	1 0 0	4 6 0	3 9 0	...	8 15 0
III. CONFISCATED DRIFT AND WAIF WOOD	..	...	..	...	...	...
IV. REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—						
a. Duty on foreign Timber and other Forest produce	...	...	...	...	...	...
b. Revenue from shared and private Forests.	...	...	...	...	...	...
V. RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVT.	...	...	...	...	...	...
VI. LIVE STOCK, STORES, TOOLS AND PLANT—						
a. Purchase of Cattle	...	...	...	...	...	...
b. Feed and keep of Cattle	...	46 14 0	37 6 6	...	141 5 6	225 10 0
c. Stores, Tools and Plant	...	247 3 5	1 2 0	...	29 14 5	278 3 10
VII. COMMUNICATIONS AND BUILDINGS—						
a. Roads and Bridges	.	...	...	...	0 8 0	0 8 0
b. Buildings	...	326 4 0	35 2 6	146 14 0	226 10 0	734 14 6
c. Other Works	..	...	...	...	24 15 8	24 15 8
VIII. DEMARCATION, IMPROVEMENT AND EXTENSION OF FORESTS—						
a. Demarcation	...	...	..	787 10 4	3 12 0	791 6 4
b. Compensation for Land and Rights	...	...	...	...	...	...
c. Surveys and Working Plans	...	365 6 0	3,156 11 4	637 8 0	1,535 3 0	5,694 12 0
d. Plantations	..	919 12 4	272 1 7	26 13 0	1,938 5 8	3,157 0 7
e. Protection from Fire	...	...	...	...	...	...
f. Other Works	..	698 5 7	....	539 3 8	314 11 2	1,552 4 5
IX. MISCELLANEOUS—						
a. Refunds	...	...	...	...	...	...
b. Law Charges	..	...	...	...	...	...
c. Other Charges	...	16 5 0	3 11 0	...	1,007 8 3	1,027 8 3
TOTAL A, CONSERVANCY AND WORKS	...	56,918 15 0	44,201 9 4	17,795 0 7	66,968 12 0	1,85,884 4 11
B. ESTABLISHMENTS.						
I. SALARIES—						
a. Conservators	15,000 0 0	...	...	...	...	15,000 0 0
b. Superior Officers	...	2,825 0 0	6,575 0 0	2,100 0 0	6,620 0 0	18,120 0 0
c. Subordinate Forest & Depôt Establishments	...	8,763 7 2	5,816 5 1	7,644 13 3	15,684 12 0	37,909 5 6
d. Office Establishments	3,408 0 0	1,505 2 1	1,296 0 0	1,302 0 0	1,897 8 2	9,408 10 9
e. Deputation and Special Allowances	14 0 0	...	...	..	...	14 0 0
II. TRAVELLING ALLOWANCES—						
a. Conservators	2,400 0 0	...	...	...	...	2,400 0 0
b. Superior Officers	...	1,230 5 4	1,855 2 7	1,200 0 0	2,543 5 2	6,837 13 1
c. Subordinate Forest & Depôt Establishments	...	787 13 0	540 0 0	615 1 9	1,200 13 1	3,143 11 10
d. Office Establishments	886 12 5	573 10 1	450 2 0	438 4 5	696 13 1	3,045 10 3
III. CONTINGENCIES—						
a. Stationery	4 8 0	78 13 3	66 10 9	89 13 3	179 7 3	419 4 6
b. Carriage of Tents and Records	178 0 0	114 5 8	167 11 6	126 0 0	97 8 6	683 9 8
c. Rents, Rates and Taxes	300 0 0	240 0 0	255 0 0	240 0 0	87 0 0	1,122 0 0
d. Pay and Police Guards	...	...	...	...	...	...
e. Official Postage	131 8 0	125 4 0	160 6 0	235 5 0	420 1 6	1,072 8 6
f. Sundries	248 9 5	256 2 3	73 1 2	227 4 3	245 0 5	1,050 1 6
TOTAL B. ESTABLISHMENTS	22,571 5 10	16,508 14 10	17,255 7 1	14,218 10 8	29,672 5 2	1,00,226 11 7
GRAND TOTAL OF EXPENDITURE	22,571 5 10	73,427 13 10	61,457 0 5	32,013 11 3	96,641 1 2	2,86,111 0 6

No. F. / 14894.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Dated *Bombay,* ——— *1889.*

A. F. COX,
Acting Accountant General.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE, ACCOUNT CURRENT FOR THE YEAR 1888-89.

To Cash Balance			102 13 6	By Refunds and Drawbacks—			
„ VIII—Assessed Taxes—Income tax			1,026 4 8	„ Refunds Divided Heads, Forest			641 8 7
„ IX—Forests			4,15,867 8 0	„ 11 Forest			2,86,111 0 6
„ XXII.—Receipts in aid of superannuation subscription to the Military Fund			414 0 0	„ 19 Law and Justice—			
„ Revenue Deposits, Forests			2,498 4 5	Jails—			
Advances Recoverable—				District Jails—			
„ Forest advances	78,535 5 6			Contingencies, miscellaneous office expenses			469 6 0
„ Objection book advances	183 5 4			„ Revenue Deposits			2,371 15 5
		78,718 10 10		Advances Recoverable—			
„ Cash recoveries		15 11 0		„ Forest advances		91,737 3 4	
„ Cheques and Bills, Departmental Cheques—				„ Objection book advances			91,737 3 4
Forests		3,01,650 14 10		„ Cash Recoveries			15 11 0
Forest Remittances—				„ Cheques and Bills—			
„ Remittances to Treasuries	3,877 2 2			(Departmental Cheques)—			
„ Inter Divisional Transfers	2,159 13 0			„ 26 Scientific and other Minor Departments—			
„ Inter Departmental Transfers		6,036 15 2		Farm, farming charges			945 0 0
Accounts between India and Bombay—				Forest Remittances—			
III.—Items adjustable, Bengal W. F. Pension Fund		358 8 0		„ Remittances to Treasuries		3,00,215 9 9	
Account between Bombay and P. W. D., (Railway Branches)—				Inter Divisional Transfers		3,880 1 2	
IV.—Items adjustable by P. W. D., (N. W. Railway)		21 4 0		„ Inter Departmental Transfers		2,107 15 0	3,06,233 9 11
Account between Bombay, and P. W. D., (Ordinary Branches)—				Accounts Current—			
IV.—Items adjustable by P. W. D., Payments by C. F.		2 8 0		Account between Bombay and Military Bombay—			
				IV.—Miscellaneous			20,049 11 6
				Account between Bombay and P. W. D., Ordinary Branches—			
				IV.—Items adjustable by P. W. D., Inter Departmental charges			742 10 3
				Account between Bombay and P. W. D., (Railway Branches)—			
				IV.—Items adjustable by P. W. D., (N. W. Railway)			97,233 14 1
				Cash Balances			69 11 10
Grand Total Rs.		8,06,621 6 5		Grand Total Rs.			8,06,621 6 5

No. F. / 14893.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Accountant General's Office,
Bombay, —— August 1889.

A. F. COX,
Acting Accountant General.

ANNUAL FORM No. 60.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE, REVENUE RECEIVED AND OUTSTANDINGS ON ACCOUNT OF REVENUE DURING 1888-89.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sukkur	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	8,913 14 10	8,913 14 10	8,913 14 10	*.....	
	(b) Firewood and charcoal	92 0 5	69,345 4 7	69,437 5 0	69,345 4 7	.....	
					* 92 0 5		* Written off as per G. R. No. 3799 of 11th June 1888.
	(c) Grass and other minor produce	.....	495 6 9	495 6 9	495 6 9	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	5,231 3 10	5,231 3 10	5,231 3 10	.....	
	(b) Firewood and charcoal	168 12 0	25,315 9 11	25,484 5 11	25,484 5 11	.....	
	(d) Grazing and fodder grass	..... *	17,655 14 3	17,655 14 3	17,655 14 3	.....	
	(e) Other minor produce	.....	1,675 1 0	1,675 1 0	1,675 1 0	.....	
	III.—Confiscated drift and waif wood	.....	27 11 0	27 11 0	27 11 0	.....	
	Total...	260 12 5	1,28,660 2 2	1,28,920 14 7	1,28,920 14 7	.....	
Naushahro	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	2,795 1 1	2,795 1 1	2,795 1 1	.....	
	(b) Firewood and charcoal	.....	17,759 3 0	17,759 3 0	17,747 3 0	12 0 0	
	(c) Grass and other minor produce	.....	38 13 0	38 13 0	38 13 0	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	711 13 9	711 13 9	711 13 9	.....	
	(b) Firewood and charcoal	.....	3,799 5 4	3,799 5 4	3,799 5 4	.....	
	(d) Grazing and fodder grass	.....	8,875 4 4	8,875 4 4	8,875 4 4	.....	
	(e) Other minor produce	.....	4,125 10 6	4,125 10 6	4,125 10 6	.....	
	III.—Confiscated drift and waif wood	.....	.....	.....	.....	.....	
	Total...	.....	38,105 3 0	38,105 3 0	38,093 3 0	12 0 0	

Hyderabad	I.—Timber and other produce removed from the forests by Government agency—													
	(*a*) Timber	171	4	3	39,287	2	5	39,458	6	8	39,116	3	7	342 3 1
	(*b*) Firewood and charcoal	2,070	0	0	59,802	7	8	61,872	7	8	60,420	2	8	1,452 5 0
	(*e*) Grass and other minor produce	.....			612	10	0	612	10	0	612	10	0	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(*a*) Timber	.....			2,776	11	5	2,776	11	5	2,514	9	2	262 2 3
	(*b*) Firewood and charcoal	.....			4,010	12	0	4,010	12	0	4,009	2	0	1 10 0
	(*d*) Grazing and fodder grass	.....			16,379	2	0	16,379	2	0	16,379	2	0	.....
	(*e*) Other minor produce	.....			12,152	3	11	12,152	3	11	12,152	3	11	.....
	III.—Confiscated drift and waif wood	.....			5	0	0	5	0	0	5	0	0	.....
	Total	2,241	4	3	1,35,026	1	5	1,37,267	5	8	1,35,209	1	4	2,058 4 4
Jerruck	I.—Timber and other produce removed from the forests by Government agency—													
	(*a*) Timber	1,041	4	0	12,138	13	5	13,180	1	5	13,038	6	9	141 10 8
	(*b*) Firewood and charcoal	3,977	4	9	51,034	13	7	55,012	2	4	48,790	12	6	6,221 5 10
	(*e*) Grass and other minor produce	.....			2	0	0	2	0	0	2	0	0	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(*a*) Timber	.....			933	9	0	933	9	0	933	9	0	.....
	(*b*) Firewood and charcoal	20	0	0	348	6	11	368	6	11	368	6	11	.....
	(*d*) Grazing and fodder grass	3	4	0	14,269	12	0	14,273	0	0	14,269	12	0	3 4 0
	(*e*) Other minor produce	.....			4,087	1	3	4,087	1	3	4,012	1	3	75 0 0
	III.—Confiscated drift and waif wood	.....			2	0	8	2	0	8	2	0	8	.....
	Total	5,041	12	9	82,816	8	10	87,858	5	7	81,417	1	1	6,441 4 6
Total Sind Circle	I.—Timber and other produce removed from the forests by Government agency—													
	(*a*) Timber	1,212	8	3	63,134	15	9	64,347	8	0	63,863	10	3	483 13 9
	(*b*) Firewood and charcoal	6,139	5	2	1,97,941	12	10	2,04,081	2	0	1,96,303	6	9	7,685 10 10
											* 92	0	5	* Written off.
	(*e*) Grass and other minor produce	.....			1,148	13	9	1,148	13	9	1,148	13	9	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(*a*) Timber	.....			9,653	6	0	9,653	6	0	9,391	3	9	262 2 3
	(*b*) Firewood and charcoal	188	12	0	33,474	2	2	33,662	14	2	33,661	4	2	1 10 0
	(*d*) Grazing and fodder grass	3	4	0	57,180	0	7	57,183	4	7	57,180	0	7	3 4 0
	(*e*) Other minor produce	.....			22,040	0	8	22,040	0	8	21,965	0	8	75 0 0
	III.—Confiscated drift and waif wood	.....			34	11	8	34	11	8	34	11	8	.....
	Grand Total	7,543	13	5	3,84,607	15	5	3,92,151	12	10	3,83,640	4	0	8,511 8 10

The outstandings under V (*e*) at the end of the year amount to Rs. 7-6-0.

Hyderabad,
10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1888-89.

Divisions.	Department Debtor.			Department Creditors.			Balance due.		Remarks.
	At commencement of the year.	Recoveries in cash and value of supplies and works done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (outstandings.)	To Department Liabilities.	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Jerruck	.....	7,895 0 0	7,895 0 0	2,800 0 0	12,553 0 0	15,353 0 0	7,458 0 0	.....	
Hyderabad	.....	500 0 0	500 0 0	.....	1,500 0 0	1,500 0 0	1,000 0 0	.....	
Naushahro	.....	.....	.....	.....	.....	.....	.....	.....	
Sukkur	.....	61 3 10	61 3 10	171 5 10	.....	171 5 10	110 2 0	.....	
Total Contractors...	.....	8,456 3 10	8,456 3 10	2,971 5 10	14,053 0 0	17,024 5 10	8,568 2 0	.....	
Disbursers.									
Jerruck	.....	19,335 12 6	19,335 12 6	144 8 0	19,397 4 6	19,541 12 6	206 0 0	.....	
Hyderabad	.....	28,918 6 4	28,918 6 4	191 0 3	35,561 0 0	35,752 0 3	7,203 12 11	.....	
Naushahro	.....	10,066 2 1	10,066 2 1	.....	10,066 2 1	10,066 2 1	.....	.....	
Sukkur	.....	11,758 12 9	11,758 12 9	1,169 0 3	12,659 12 9	13,828 13 0	2,070 0 3	.....	
Total Disbursers...	.....	70,079 1 8	70,079 1 8	1,504 8 6	77,684 3 4	79,188 11 10	9,479 13 2	.....	
Grand Total...	.....	78,535 5 6	78,535 5 6	4,475 14 4	91,737 3 4	96,213 1 8	18,047 15 2	.....	

No. F. / 14895.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Accountant General's Office,
Bombay,—August 1889.

A. F. COX,
Acting Accountant General.

ANNUAL FORM No. 62.

FOREST DEPARTMENT, SIND CIRCLE, Financial Results of the year 1888-89.

Division.	Timber and other produce removed from the Forests by Government Agency.		Other revenue.		Formation, protection and improvement of Forests	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sukkur	78,755	74,364	62,718	13,542	16,413	1,41,473	1,04,319	
Naushahro	20,581	21,333	28,720	5,685	7,672	49,301	34,690	
Hyderabad	1,00,154	62,603	40,581	8,175	10,288	1,40,735	81,066	
Jerruk	61,831	47,998	22,527	7,298	10,740	84,358	66,036	
Total...	2,61,321	2,06,298	1,54,546	34,700	45,113	4,15,867	2,86,111	

Hyderabad,
10th September 1889.

J. G. McRAE, Colonel,
Conservator of Forests, Sind Circle.

STATEMENT showing the progress of Forest Demarcation and Settlement Work in the Sind Circle for 1888-89.

Class of Forests.	At the commencement of the year— Area under Section 34 in which private rights have not been enquired into, settled and recorded.	Area settled during the year under		Area of Reserved Forests alienated under Section 26.	Area of protected Forests disforested under Government orders.	At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.
		Chapter II of the Act.	Chapter IV of the Act.			
	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.
Reserved Forests...	.....	.....	.....	.....	.....	.....
Protected Forests	.....	.....	.....	.....	.....	.....

Conservator's Office,
Hyderabad, 10th September 1889.

J. G. McRAE, Colonel
Conservator of Forests, Sind Circle.

No. 3461 of 1889.

Revenue Department.

Commissioner's Office,

Karachi, 24th September 1889.

Submitted to Government.

2. During the year the area under reserved forest increased from 893 square miles 150 acres to 937 square miles 388 acres. The increase is mainly due to an area of 79 square miles, 191 acres having been constituted reserved forest under the Act. There was also a net addition of 3 square miles 197 acres owing to the action of the river. But little valuable forest land was lost, the land eroded being for the most part of recent formation on which there was no valuable timber.

3. At the end of the year there were 31,325 acres 37 guntas of land, which had been selected for forest, awaiting final settlement. Proposals for the settlement of the Tatta blocks, comprising an area of 18,277 acres 29 guntas, have since been sanctioned by Government, so that the area still remaining to be settled is now 13,048 acres 29 guntas. The delay which has taken place in disposing of this work is due to the time of Mr. Mules, the Forest Settlement Officer, being much taken up by other duties. It is expected, however, that the work of settlement will be completed within the current year.

4. The Conservator states that the work of demarcation may now be considered to be practically completed; but he suggests that it may be found advisable to take up certain lands in the north of the Hyderabad District which are suitable for babul forest. Colonel McRae's proposals will be awaited; but there is likely to be a great extension of cultivation in that part of the country during the next few years, and the Commissioner is disposed to think that no more land should be taken up for forest purposes until it becomes evident that the present reserves are inadequate to the demands made upon them.

5. There was a slight increase in the number of forest offences. Owing to the failure of rain in the hills and in the desert, a great number of cattle owners resorted to the "kachas" or alluvial lands bordering on the river, and consequently cases of trespass and illicit grazing became more frequent. The number of cases dealt with by the Magistrates fell from 130 in 1887-88 to 105 in 1888-89, and, as in the previous year, convictions were obtained in 60 per cent. of the cases. When the difficulty of obtaining independent evidence in forest cases is taken into consideration, it will appear that the forest officers have used their powers with discretion.

6. While the number of forest fires was the same as in the previous year, the area burnt increased from 3,572 to 7,275 acres. Fires were, as usual, most frequent in the Sukkur Division where reed grass is most abundant. There is no doubt that in certain tracts, where the grass has become so dense and impenetrable as to check the growth of all other vegetation, occasional firing is beneficial, and on the whole it may be doubted whether forest fires in Sind are the cause of any serious loss.

7. In dealing with the question of grazing fees, the Conservator, after remarking that some revenue officers view with great disfavour the possession of kachas by the Forest Department, and think it would be better to clear and devote them to cultivation of cereals, puts forward a plea for the acquisition and retention of lands of this description by the Forest Department on the ground that they are valuable for the purpose of raising fodder crops, and that it would be as "stupid as it would be cruel to ignore the wants of the

pastoral section of the population by not holding in reserve grazing grounds in a province that has such a scanty and precarious rainfall." No doubt it is important to maintain a supply of fodder or free grazing, but this point does not materially affect the question whether the kachas should be placed at the disposal of the Forest Department or not. As a matter of fact no crops are grown on these lands solely or even mainly for forage, while there are very large areas under wheat and oil-seeds, the most valuable export crops of the province. The proportion which is at present in the possession of the Forest Department to the whole area available is so small that its reservation for grazing or fodder can make but little difference. Large areas outside those belonging to the Forest Department must necessarily be left uncultivated, for the reason that cultivators are not forthcoming. The whole of these areas are yearly flooded and produce a never failing supply of grass and grazing independently of any action of the Forest Department, and there is no occasion to make any additions to the Forest reserves, simply with a view to their usefulness as grazing grounds till they are wanted for timber. The claims of the Department to any land which is wanted for timber, and which is suitable for its production and reservation of which is generally practicable and advisable, is already recognized, and it would not, in the opinion of the Commissioner, be desirable to go further.

8. In this province there is a very large amount of cultivation within forest limits, the assessment on which is credited to the Forest Department. There is nothing in the report to show what extent of land is under cultivation or what amount of revenue is derived from this source. This information should be given in future reports.

9. The financial results of the year, as compared with those of 1887-88, were as follows :—

	1887-88.	1888-89.	Decrease.
Receipts ..... Rs.	6,32,302	4,15,867	2,16,435
Expenditure ..... ,,	4,66,127	2,86,111	1,70,016
Net Revenue Rs.	1,66,175	1,29,756	46,419

Thus, there was a decrease of Rs. 2,16,435 in the gross and of Rs. 46,419 in the net revenue.

10. The revenue of the Forest Department in Sind depends, and so far as can be judged, must for many years continue to depend, mainly upon the sale of fuel to the N. W. Railway. During the year the Railway Administration having large stocks of fuel on hand reduced their demands, while the question of using petroleum or coal instead of wood fuel was under discussion. The amount of wood taken by the railway was 3,72,476 maunds, as against 15,43,278 maunds supplied in the previous year. The net loss of revenue on this account was Rs. 74,470, while the decrease in the net revenue of the Department was only Rs. 46,419. Hence if the demand for railway fuel had been the same as in the previous year there would have been an increase of Rs. 28,051 in the net revenue. This amount has been made up partly by improved receipts from other sources and partly by a reduction in the expenditure, which has fallen from 65·7 to 61·3 per cent. on the gross receipts.

11. The question of the terms on which fuel should be supplied to the railway has been under discussion for some time, and in order to prevent a dead lock, it was absolutely necessary that some understanding should be arrived at. At a meeting between the Commissioner and the Director, N. W. Railway, on the 2nd April, it was agreed (1) that fuel should be supplied at the present rates up to the 1st April 1890; (2) that after that date a royalty of Rs. 12 per 1,000 cubic feet should be paid in addition to actual cost of cutting and delivery; (3) that fuel supplied by the Forest Department

should be used at all stations at which it can be supplied cheaper than fuel supplied elsewhere; and (4) that in every case in which the Director may be able to show that fuel can be obtained more cheaply from other sources, a reduction will be made in the royalty sufficient to make it profitable to the railway to take fuel supplied by the Forest Department. These terms were accepted by the Director under protest and subject to the orders of the Government of India, which it was his intention to apply for; but as they are in accordance with the principles laid down in the Government of India's letter No. 1263 F, dated the 6th November 1888, to the address of the Bombay Government, and are fair to both Departments, it is not expected that the Government of India will consider it necessary to make any modification in the arrangement.

12. The business of the depôts in the Sukkur Division having suffered considerably from the competition of timber imported by river from the Punjab and Bahawalpur, the Conservator recommended that a duty should be placed on imported timber. But as it was considered unfair to tax the consumer in order to protect the revenue of the Forest Department, it was resolved to reduce the selling prices of timber at these depôts by 20 per cent. The result of this experiment is not yet known, but Colonel McRae does not consider that receipts will be raised to their former level.

13. There is nothing else in the report which calls for special comment. The administration of the Department has been successfully carried on by Colonel McRae under circumstances of considerable difficulty, and his subordinates also appear to have done good work.

A. C. TREVOR,
Acting Commissioner in Sind.

No. 3012.

REVENUE DEPARTMENT

Bombay Castle, 2nd May 1890.

Letter from the Conservator of Forests, Sind Circle, No. 828, dated 10th September 1889—Forwarding the Forest Administration Report of the Sind Circle for the year 1888-89 with its subsidiary statements.

Memorandum from the Commissioner in Sind, No. 3461, dated 24th September 1889—Submitting the above with his remarks.

Letter from the Conservator of Forests, Northern Circle, No. 3696, dated 31st October 1889—Submitting the Forest Administration Report of the Northern Circle for the year 1888-89 with its subsidiary statements.

Memorandum from the Commissioner, Northern Division, No. 17, dated 5th January 1890.
Letter from the Commissioner, Central Division, No. R-445, dated 27th January 1890. } Submitting their remarks on the Forest Administration Report of the Northern Circle.

Letter from the Conservator of Forests, Southern Circle, No. 3402A., dated 16th November 1889--Submitting the Forest Administration Report of the Southern Circle for the year 1888-89 with its subsidiary statements.

Memorandum from the Commissioner, Southern Division, No. 105, dated 15th January 1890—Submitting, with his remarks, the Forest Administration Report of the Southern Circle.

Letter from the Conservator of Forests, Northern Circle, No. 4816, dated 18th January 1890—Stating, with reference to Government Resolution No. 8144, dated 26th October 1889, that he has in his administration report for 1888-89 reported fully on the general condition of the forests as regards reproduction.

Letter from the Conservator of Forests, Sind Circle, No. 1626, dated 25th January 1890—Stating, with reference to Government Resolution No. 8144, dated 26th October 1889, that he has gone rather fully into the subject of reproduction in his annual report for 1888-89.

Letter from the Conservator of Forests, Southern Circle, No. 4422, dated 28th January 1890—Submitting the report called for in Government Resolution No. 8144, dated 26th October 1889.

Memorandum from the Commissioner, Northern Division, No. 619, dated 28th February 1890—Forwarding, with reference to paragraph 6 of his office No. 17, dated 5th January 1890, a letter from the Collector of Surat, who states that the forest settlement of lands notified under Section 34 of the Indian Forest Act in that district has been completed while that of a small area of lands notified under Section 4 in Bulsár and Párdi is in progress.

Letter from the Conservator of Forests, Southern Circle, No. 5355, dated 29th March 1890—Submitting the explanation called for by Government regarding outstandings in the North Kánara Division.

RESOLUTION.—The financial results of the administration of the Forest Department during the year 1888-89 are shown in the following statement, which comprises also the corresponding figures of the previous year :—

	Receipts.		Expenditure.		Net Revenue.	
	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Northern Circle	9,68,625	11,60,769	7,23,135	7,27,412	2,45,490	4,33,357
Southern Circle	14,34,650	12,73,554	7,46,260	6,75,601	6,88,390	5,97,953
Sind Circle	6,32,302	4,15,867	4,66,127	2,86,111	1,66,175	1,29,756
Total ...	30,35,577	28,50,190	19,35,522	16,89,124	11,00,055	11,61,066

The gross receipts, Rs. 28,50,190, have decreased by Rs. 1,85,387, but the expenditure having been reduced by Rs. 2,46,398, there is a net increase of revenue of Rs. 61,011, the total net revenue for the year being Rs. 11,61,066.

2. The increase is wholly in the Northern Circle where the results obtained are, in the opinion of His Excellency in Council, highly creditable to Mr. Shuttleworth and the officers serving under him. The gross revenue of that Circle is the largest on record by Rs. 1,23,472, while the net revenue exceeds that of the previous year by Rs. 1,87,867. The chief items of increase are timber (more than a lákh) and grazing fees. Only one Division of the Northern Circle, namely, Sholápur, failed to balance receipts and expenditure, but even in that Division a considerable improvement on the financial position of the previous year is discernible, the deficit having been reduced from Rs. 12,857 in 1887-88 to Rs. 2,957 in the year under review, as shown in the margin.

	1887-88. Rs.
Receipts	16,445
Expenditure....	29,302
Balance ...	−12,857
	1888-89. Rs.
Receipts	24,647
Expenditure	27,604
Balance ...	−2,957

3. Further analysis of the figures of the Northern Circle shows that there has been an increase in both gross and net revenue in all Divisions except the Panch Mahals, which gives a decrease of Rs. 8,778 gross and Rs. 8,609 net revenue. This decrease is explained to be due to fewer sales of timber during the year consequent on a combination among the Godhra timber merchants. Looking to the position of the Panch Mahals as lying on the confines of, and connected by railway with, the teakless plain of Northern Gujarát, with its well-to-do and dense population, the Governor in Council trusts that every attempt will be made to render the Forest Department sales independent of local combinations by opening a wider market for the sale of the timber of that Division.

The most notable increases were in the Surat and South Thána Divisions. In the former, the increase of revenue was on account of the better prices obtained at the auction sales of the wood of the Upper Dángs: in the case of South Thána Division, the increase in receipts was in some measure due to sales of timber in connection with the Tánsa Water-works.

It is observed with satisfaction that in the Thána Divisions the tendency noticed in previous reviews to diminution of the departmental fellings with a more than corresponding increase in contract fellings still continues.

4. In the Southern Circle the decrease in net revenue is Rs. 90,437, from which Mr. MacGregor would deduct Rs. 63,052, being the excess of outstandings in the year over the previous year. It is impossible to adopt this reasoning, for the arrears, if recovered, will be credited in the accounts of the ensuing year. In his letter No. 5355, dated 29th March 1890, the Conservator states, in explanation of the heavy outstandings in the Northern Division of Kánara, that the "merchants who bought the wood in auction were unable to sell it quickly, and consequently it was not quickly removed from depôt." Provided the safeguards mentioned by Mr. MacGregor are fully observed, the practice appears unobjectionable and may be allowed to continue.

5. In the Southern Circle the only Division worked at a loss is Ratnágiri, and it is satisfactory to observe that in that Division appreciable progress has been made towards, at least, an equalization of receipts and expenditure, the loss to Government in the year under review being Rs. 1,468 as against Rs. 9,849 in the previous year.* While the expenditure (chiefly under establishment, demarcation and law charges) has decreased, the revenue from timber has risen from Rs. 9,108 to Rs. 10,731. In the Central Kánara Division, the net revenue has fallen from Rs. 1,87,887 to Rs. 1,06,287; the decrease is almost entirely under "timber," and is reported to be due to the very limited demand for sleepers for the Southern Mahrátta Railway. In the Belgaum Division, while

*

	1887-88. Rs.
Receipts	10,311
Expenditure	20,160
Balance ...	−9,849
	1888-89. Rs.
Receipts	12,050
Expenditure	13,518
Balance ...	−1,468

the gross revenue has fallen from Rs. 3,39,847 to Rs. 2,84,064, the net revenue shows a decrease of Rs. 4,447 only. In the case of firewood sales in this Division, it is observed that there is a *decrease* in gross receipts of Rs. 31,518, but the net receipts from this source have *increased* by no less an amount than Rs. 10,954. In connection with the difficulties of transport, the proposals of the Conservator for the construction of a forest tramway have been considered by Government and it has been shown in Resolution No. 4605, dated 29th June 1889, that it is very much more to the interest of the Railway Company than to that of the Forest Department that such a tramway should be constructed and that the Company are in a better condition than Government to undertake its construction and working. The financial results of the administration of the other Divisions of this Circle do not call for particular notice.

6. In the Sind Circle there is a decrease in net revenue of Rs. 36,419. The Conservator has erroneously stated the decrease at Rs. 46,419, an error adopted by the Commissioner in Sind in paragraph 9 of his forwarding memorandum. Receipts from firewood and charcoal exhibit a net decrease of Rs. 60,269, which, Colonel MacRae states, is due to the North-Western Railway having had a large stock of fuel on hand at the commencement of the year, so that a smaller supply was indented for during the year. At a conference held with the Railway authorities on the subject, it was arranged that the existing rates charged for fuel supplied to the Railway should continue in force up to 1st April 1890, after which date new rates were to be charged. Government are glad to see that Colonel MacRae is fully alive to the necessity of doveloping and stimulating a demand for wood independent of the requirements of the North-Western Railway and that his efforts in this direction have met with some measure of success. 222,625 cubic feet of firewood were exported to Bombay, Káthiáwár and other ports, while with a view to increasing the trade in wood between Bombay Presidency proper and Sind, a monopoly for three years of exporting wood to Bombay and Cutch Mándvi was granted to a contractor.

7. In Form 58 appended to the Sind Circle report a sum of Rs. 32,222-13-7 is entered under "Revenue V. Miscellaneous (*c*) Other sources." The amount considerably exceeds that shown under the same sub-head in the reports of the Northern and Southern Circles and the Conservator should be asked to state how it is made up and whether it includes the assessment levied on lands under cultivation within forest limits, referred to by the Conservator in paragraph 8 of his memorandum.

8. The changes in the forest area during the year are shown in the following statement :—

Circle.	Area on 1st April 1888.		Added.		Excluded.		Area on 31st March 1889.	
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.
Northern Circle ...	7,128	1,066	328	1	10	20	7,446	1,047
Southern Circle ...	1,817	3,412	2	...	...	...	1,819	3,412
Sind Circle	893	1	93	...	13	...	973	1
Total ...	9,838	4,479	423	1	23	20	10,238	4,460

In the Northern Circle, of the area shown as added during the year, 83 square miles represent a nominal increase only, being due to rectification of forest areas in the Násik Division which had previously been incorrectly recorded. Otherwise, the main additions in that Circle are accounted for by reservations in Násik (Peint and Igatpuri Tálukas) and East Khándesh. The greater portion of the 20 square miles of protected forest disforested during the year has since been included in reserved forest. A small area was added to reserved forest in the Belgaum Division of the Southern Circle. In Sind, the increase occurs chiefly

in the Naushahro Division, while the exclusion of 13 square miles of reserved forest is explained to be due to changes in the course of the river. The lands thus lost, however, were of no great value, and were for the most part used as grazing grounds.

9. The figures relating to progress of settlement are not given with clearness in any of the reports now under consideration. While the areas added to forest during the year do not include areas in respect of which settlement was completed but not sanctioned during the year, so, on the other hand, they include areas settled in the previous year and sanctioned during the year under review. It is however clear that the settlement of forest areas notified under Section 34 of the Indian Forest Act is not progressing as expeditiously as is desirable. The following are the figures for the year :—

	Area settled during the year.	Area remaining to be settled.
	Sq. miles.	Sq. miles.
Northern Circle	105	1,972
Southern Circle	308	3,165
Sind Circle	...	...
Total ...	413	5,137

In paragraph 57 of his report the Conservator, Northern Circle, has shown an area of 84 square miles of Reserved Forest notified under Section 34 in the Násik Division in which rights have not been enquired into and recorded. This area did not appear in Mr. Shuttleworth's report of the previous year, and the reason of its inclusion now should have been explained. It is presumed that the area has no connection with the 83 square miles referred to in the preceding paragraph, as the fact of the latter being incorrectly recorded could not affect the validity or the extent of the settlement.

In respect of areas notified under Sections 4 and 28 of the Act, the settlement remaining to be done appears to be as follows :—

In Northern Circle 568 square miles.
„ Sind Circle 49 „

The Conservator, Southern Circle, has not given the corresponding figures for his Circle.

10. In paragraph 2 of his report, and again in paragraph 17, the Conservator, Sind Circle, states that no expenditure was incurred during the year under the head of Forest Demarcation and Settlement, but this statement cannot be reconciled with Form 58 appended to his report, which shows an expenditure under "VIII (*a*) demarcation" of Rs. 791-6-4. The total expenditure under that head in all three Circles amounted during the year to Rs. 32,468.

11. The year saw the institution, from 1st October 1888, of a special Forest Survey Branch, for the conducting, under the orders and supervision of this Government, of topographical surveys of the forests of the Presidency. The survey party worked at various times throughout the year in the Thána, Násik, Poona, Sátára and Kánára Divisions. The amount of detail survey work done is reported to have been as under :—

Survey on 4" to the mile scale.	Square miles.	Cost, Rs.
Northern Circle	... 317	20,605
Southern Circle	... 132·75	25,200
Survey on 8" to the mile scale.		
Northern Circle	... 139·477	22,619.

or 449·75 square miles on the 4" scale and 139·477 square miles on the 8" scale at a total cost of Rs. 68,424. From the information embodied in the Conservators' reports, it is not clear whether these figures relate to the period from 1st October 1888 or from 1st April 1883 to 31st March 1889. The cost per square mile—the only profitable datum for estimates of survey work—is given as follows :—

Scale.		Rs.
4″ to the mile.	Northern Circle ...	... 65 per square mile.
Do.	Southern Circle ...	... 190 ,,
8″ to the mile.	Northern Circle ...	... 187 ,,

The vast difference between the cost of surveys on the 4″ to the mile scale in the two Circles is remarkable, but is possibly attributable to the more rugged and difficult nature of the forest tract surveyed in the Southern Circle. As compared with the surveys of the previous year, which cost per square mile—

Scale.		Rs.
In Southern Circle, 8″ to the mile	...	... 250 per square mile.
,, Northern Circle 8″ do.	...	... 272 do.

there is a very appreciable improvement, but the cost is still much greater than was anticipated and estimated by Government. Without more accurate and detailed figures, it would be futile to attempt further consideration of the survey work done and the cost thereof, but as such information is mainly desirable in respect of operations that will cost Government for some years to come a large annual sum, the Survey and Settlement Commissioner should be asked to submit yearly a report on the working of the Forest Survey Party. The Commissioner should also be requested to state whether he would propose that his report be for the year ending 31st March, or for that ending 30th June. Mr. Shuttleworth's opinion—reiterated in his present report—on the scale of the survey maps has already been laid before Government and orders passed thereon.

12. In the Northern Circle the Working Plans Division continued its work in the two Thána Divisions. It is reported that the whole reserved forest area of the Divisions, and a certain portion—not specified—of the protected forests have come under the operations of the Working Plans Division. Looking to this fact, and to the results of the year's work set out in paragraph 72 of Mr. Shuttleworth's report, Government are of opinion that the Conservator should be in a position to present, in future reports, valuable information as to the capabilities of the Thána forests and whether they have hitherto been under or overworked. In the Southern Circle the operations were, as in the previous year, confined to a percentage enumeration and measurement of trees in certain areas of the North Kánara Division. About 9 square miles were so treated, and, in view of the staff employed, this cannot be considered to be a very satisfactory result. So far as the work yet done affords a basis for drawing any conclusion as to the capabilities of the forests, Mr. MacGregor thinks that the area is greatly underworked, and increased exploitation might with advantage be carried out. His Excellency in Council, however, considers that this opinion is somewhat premature and desires that the calculation of the forest stock may be vigorously pushed forward. In Sind, about 26 square miles of forest were surveyed, while the work of dividing the forests into compartments is reported to be approaching completion.

13. The number of prosecutions for forest offences was as shown in the following table :—

Circle.	1887-88.		1888-89.		Percentage of failures.	
	Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1887-88.	1888-89.
Northern Circle ...	709	171	1,031	255	24·1	24·7
Southern Circle ...	108	33	129	31	31·	24·
Sind Circle ...	130	52	105	42	40·	40·
Total ...	947	256	1,265	328	27·03	25·92

The result is satisfactory, except in the Sind Circle, where the percentage of failures is considerably higher than in the other two Circles. Colonel McRae remarks that " the results compare favourably with those of last year, as regards proportion of convictions to the number of cases tried ", but, as will be seen from the above table, that proportion has remained unaltered.

The following figures represent the number of cases compounded under Section 67 of the Indian Forest Act and the amounts accepted by way of compensation for damage done or for value of property:—

Circle.	1887-88.		1888-89.	
	Cases.	Amount.	Cases.	Amount.
		Rs.		Rs.
Northern Circle	5,142	8,003	6,154	11,272
Southern Circle	652	1,462	599	2,271
Sind Circle	1,447	4,341	1,493	4,316
Total ...	7,241	13,806	8,246	17,859

14. The area traversed by fire in the Northern Circle was 1,588 square miles or 18·7 of the total forest area. This is a large increase on the area burnt in the previous year, namely, 947 square miles, but one reason, no doubt, was the unfavourable character of the season owing to the late setting in of the rains. The increase occurred almost entirely in the West Khándesh and Surat Divisions (the Dángs). The portion of the latter forest burnt in the previous year is now stated to have been incorrectly reported. The Conservator, Southern Circle, confines himself to "fire-protected" areas, and does not give the figures of total area burnt, on the ground, it is presumed, that the figures submitted to him by his subordinates are unreliable; but it is the duty of the Conservator to insist on correct returns, and in this connection the system inaugurated by Mr. Shuttleworth in the Northern Circle, as detailed in paragraph 111 of his report of the previous year, might well command Mr. MacGregor's attention. The budget estimate under the head "Protection from fire" was reduced in the Southern Circle from Rs. 15,560 to Rs. 11,000. The Conservator states that this reduction, of which he received intimation on the 2nd January 1889, necessitated his stopping all further fire-protection until he learnt what works had been already carried out, that fresh allotments to Divisions had then to be made, and fresh schemes prepared by the Divisional officers, and before all this could be accomplished, the fires had begun. In the end, the expenditure on fire-protection amounted to Rs. 3,514-2-10 only, or less than one-third of the sanctioned budget allotment. His Excellency in Council does not consider this satisfactory. All that the Conservator was required to do, on receiving intimation of the reduction referred to, was to make proportionate reductions in the provisional allotments to the several Divisions, and this slight modification might easily have been carried out without bringing the work of "fire-protection" to a dead stop. In Resolution No. 1942, dated 24th March 1888, Government sanctioned the general rule (except in the Panch Mahals) that where the Collector is satisfied that there has been co-operation, connivance or gross negligence, or indifference, on the part of the village population as a whole, free-grazing be stopped in Government forests for one year when more than one-third of the forest is burnt, and for two years when more than half is burned. The Governor in Council must first be satisfied that the present measures for stopping fires have been fully tried and found to be inadequate, before he can entertain proposals for severer orders.

15 The remarks made by Mr. Shuttleworth regarding privileges conceded to villagers being, for the most part, a criticism of orders passed by Government after full consideration of objections urged by him, are out of place and should not have been made. His statement (paragraph 43) that the Kálol forests "remain protected" is incorrect: these forests are, and always have been, reserved.

16. The reports now reviewed are valuable and interesting and have been perused with much interest by His Excellency in Council. The administration of the forests of the State is fraught with many difficulties, and these the Conservators have sedulously striven to overcome. They deserve the thanks of Govern-

ment for their year's work. In particular, Mr. Shuttleworth's untiring zeal and his thorough grasp of the administration of his charge are fully appreciated. Government observe with pleasure the commendatory remarks made by the Conservators on the officers serving under them, and to which they are justly entitled.

J. DEC. ATKINS,
Acting Under Secretary to Government.

To

The Conservator of Forests, N. C.,
The Conservator of Forests, S. C.,
The Conservator of Forests, Sind Circle,
The Commissioner in Sind,
The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
The Survey and Settlement Commissioner,
The Director of Land Records and Agriculture,
All Collectors, including the Collectors and Deputy Commissioners in Sind.
The Accountant General,
The Editors' Tables,
The Government of India, } (by letter).
The Secretary of State, }

For the office of the Working plans party No II Kan
3= April

ADMINISTRATION REPORTS

OF THE

FOREST DEPARTMENT

IN THE

BOMBAY PRESIDENCY,

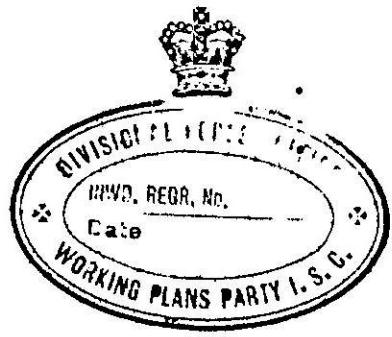
INCLUDING

SIND,

FOR THE YEAR 1889-90.

Bombay:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1891.



SOUTHERN CIRCLE.

No. 3100-A of 1890-91.

From

J. L. L. MacGREGOR, Esquire,
Conservator of Forests, Southern Circle;

To

JOHN NUGENT, Esquire,
Chief Secretary to Government,
Revenue Department, Bombay.

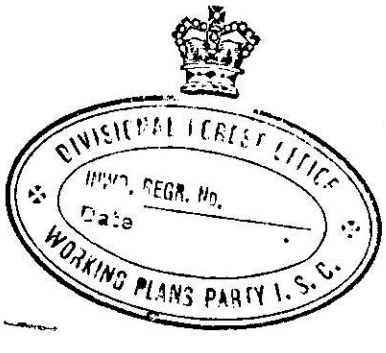
Belgaum, 18th October 1890.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Southern Circle for the year 1889-90, with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,
J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Through the Commissioner, Southern Division.



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SOUTHERN CIRCLE.

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CHAPTER I.

AREA AND BOUNDARIES.

The forest-area of the divisions of the Southern Circle during 1889-90 was as follows :—

Collectorate.	Area on the 1st April 1889.				Added during the year.				Excluded or transferred to other Heads.				Area on the 31st March 1890.				Total Forest Area.	
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.			
	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
Kánara	683	446	2,864	631	..	..	..	..	..	..	..	98 11/40	683	446	2,864	532 11/40	3,548	336 1/2
Belgaum	494	419 7/10	196	571 23/40	..	..	..	..	..	..	..	..	494	419 7/10	196	571 23/40	691	361 1/4
Dhárwár	171	410 3/40	260	259	..	..	..	..	..	..	..	..	171	410 3/40	260	259	432	29 1/2
Bijápur	155	75 11/20	..	364	..	..	..	..	..	..	..	..	155	75 11/20	..	364	155	439 11/20
Kolába	293	630 1/2	88	606 1/4	..	..	..	..	..	..	..	..	293	630 1/2	88	606 1/4	382	596 3/4
Ratnágiri	19	600 1/2	..	..	..	152 11/40	..	..	..	1/40	..	..	20	112 1/2	..	..	20	112 1/2
Total ..	1,819	22 33/40	3,411	512 3/40	..	152 11/40	..	..	..	1/40	..	98 11/40	1,819	175 1/40	3,411	413 1/2	5,230	568 11/40

KA'NARA.

2. The change in Kánara is owing to the disforestment of certain lands in the Sirsi and Mundgod sub-divisions.

3. The forest-settlement of 46 villages of Sírsi, 16 of Kumtá and 21 of Honávar, aggregating 138·45 square miles, was sanctioned by Government, but, as the area settled was not notified in the Gazette before the close of the year, it could not be entered in the statement for the year under report.

4. The following area was notified under section 4 of the Forest Act :—

Acres.	Gunthas.
18,774	33 in Honáwar.
1,852	19 in Yellápúr.
23,692	8 in Sírsi.
2,190	11 in Siddápúr.

5. The 33-feet cleared lines dividing the "special" from the "ordinary" reserves in Halliál, aggregating 45 miles 6 furlongs, were completed, in addition to 18 miles and 1 furlong dividing the reserved from the protected forests in Ankólá. The cost per mile averaged Rs. 24·4

6. The whole forest-area of Kánara was notified in 1879, under section 34 of the Forest-Act (the greater part of the area having been gazetted only approximately) ; the lands so notified are being re-notified under section 4 with a view to their being dealt with either under Chapter II, or IV, of the Act. The figures shown in paragraph 4 refer to such lands.

7. The forest-area originally gazetted is 3,514·36 square miles. Of these 930·03 square miles have been finally dealt with. The area which remains to be dealt with is 2,584·33 square miles.

8. During the year, the field-work completed in the Yellápúr, Kumtá and Sírsi sub-divisions, aggregated 299 square miles, and the settlement-officer's proposals are reported to be in course of preparation for submission to Government.

9. Up to the present time the final settlement by Mr. Wingate of 138·16 square miles of forest in Kánara, shows that 41·16 per cent. of that area is reserved, and 58·84 per cent. protected.

BELGAUM AND DHÁRWÁR.

10. The protected forests of these divisions aggregegating 457 square miles and 190 acres were notified under section 4 of the Forest-Act, and Mr. Gray, who was appointed Forest-Settlement-Officer, commenced work on the 1st November, 1889, and inspected the forests of the Belgaum and Parasgad sub-divisions. He has not sent in any report, but the work accomplished during last working-season, up to March 31, amounts to 32,581 acres.

RATNÁGIRI.

11. During the year, final orders were passed by Government on the question of forest-settlement, and it was found undesirable to make any further reservation with the exception of 153 acres of the Rájápúr-sub-division.

12. The expenditure on account of forest-settlement and demarcation during 1889-90, amounts to Rs. 15,770 as shown below :—

	Rs.	Rs.
Not charged against Forests.		
Allowances of the Forest-Settlement-Officer, Kánara ...	1,800	
Salaries and allowances of the Forest-Settlement-Officer, Belgaum-Dhárwár	4,300	
		6,100
Charged to Forests.		
Salaries and travelling allowances of the establishment employed under the Forest-Settlement-Officer, Kánara, and Contingencies	4,250	
Salaries and travelling allowances of the establishment employed under the Forest-Settlement-Officer, Belgaum-Dhárwár, and contingencies	622	
Cost of demarcation...	4,798	
		9,670
Total ...		15,770

13. The work actually effected during the year, which is represented by the above expenditure, comprises :—

299 square miles in Kánara at a cost of Rs. 6,050, or Rs. 20·24 per square mile.
51 square miles in Belgaum at a cost of Rs. 4,922, or Rs. 96·50 per square mile.

350 Total, at a cost of Rs. 31·35 per square mile.

14. Steps have been taken to obtain the information regarding the cost per square mile on account of forest-settlement up to date, and this will be reported to Government later on.

15. The high cost per square mile in Belgaum is ascribed to the fact that Mr. Gray was appointed to a newly-created office which took some time to get into working order. The rate of progress this season will no doubt be much more rapid and compare favourably with the progress made in settlements elsewhere.

16. The areas gazetted under section 4 of the Act, afford no information of the extent of the work accomplished. The settlement-officer publishes from time to time extracts from the lists of forests previously gazetted under section 34, without having examined the forests they refer to. He then, and then only, proceeds to select lands for forest. The preparation of lists for publication under sections 4 and 28 could be accomplished in a few months, but no object could be gained by that, unless the settlement-officer, who is also selection-officer, could complete his selections for the whole area during the following working-season. At last year's rate of progress, it will take eight years to complete the settlement in Kánara. It is important, as pointed out in a recent Resolution of Government, that the settlement of forests in the *supári*-garden-

tracts should be speedily completed, and the wholesale cutting of *ráb* be confined within reasonable limits, but this object cannot be attained anywhere until the forests which supply the *ráb* have been finally-settled. I see no reason why the Divisional Officer of the Southern Division of Kánara should not be deputed to select areas in his division for notification under sections 4 and 28 of the Act, the Assistant-Collectors acting as forest-settlement-officers, in their own districts, for the reserved areas selected by him. It is the work of selection that occupies nearly the whole time of settlement-officers: the judicial work is, comparatively speaking, a mere nothing, and, if the Divisional Officer's proposals for reserved and protected were accepted without revision by the forest-settlement-officer, except when acting in his judicial capacity, the progress of settlement would be much more rapid than it now is. All experience goes to show that excepting rights of way and water, no absolute rights exist in the Southern Circle, and that even those claimed are claimed for the whole village-community, and not singly by individuals: for this reason the claims of an entire village-community can be settled with very little expenditure of time on the part of the settlement-officer.

17. The following table shows the progress made in the settlement of the forests which have been gazetted under section 34 of the Forest-Act:—

Name of Collectorate.	Class of Forests.	At the commencement of the year. Areas under Section 34 in which private rights have not been enquired into, settled, or recorded.		Areas dealt with during the year, and sanctioned by Government.				Area of Reserved Forests alienated under Section 26.		Area of Protected Forests disforested under Government-orders.		At the end of the year. Areas under Section 34, in which private rights have not been enquired into, settled, or recorded.	
				Under Section 19, Chapter II of the Forest Act.		Under Section 28, Chapter IV of the Forest Act.							
Kánara ...	Reserved ...	214	286	...	...	...	...	...	...	...	...	214	286
	Protected ...	2,508	321	66	553	81	380	...	...	...	98	2,369	570
Bijápur ...	Reserved ...	155	76	...	...	...	...	...	...	...	...	155	76
	Protected ...	89	409	...	...	...	...	...	...	...	...	89	409
Kolába ...	Reserved ...	140	259	...	...	...	...	...	...	...	...	140	259
	Protected ...	37	81	...	...	...	...	...	...	...	...	37	81
Total ...	Reserved ...	509	621	...	...	...	...	...	...	...	...	509	621
	Protected ...	2,635	171	66	553	81	380	...	...	...	98	2,496	420

18. The area remaining to be dealt with in Kánara amounts to:—

Square miles.	Acres.		Square miles.	Acres.		Square miles.	Acres.
(214	286	+	2,369	570)	=	2,584	216

	Sq. m.	Acres.	
The area in Belgaum notified under section 4 of the Forest-Act is	196	571	
The area in Dhárwár notified under section 4 of the Forest-Act is	260	259	
Total (*vide* paragraph 10) ...	457	190	
Add—			
Area in Khánápur Táluka of Belgaum, notified under section 4	61	199	
Area in Hubli Táluka of Dhárwár, notified under section 4	6	27	
			524 — 416

19. The forests of Kolába have been finally settled, but the settlement proposals on three of the sub-divisions were pending Government-sanction on the 31st March 1890. The settlement of the Bijápur-forests has also been completed and reported on, but the reports were returned to the Collector during the year, as no maps were sent in with them. Besides the area to which those reports refer, the lands, selected for "fuel and fodder reserves" (referred to in paragraph 11 of the Administration Report for 1888-89), which will have to be dealt with, if the proposals regarding them receive Government-sanction, aggregate 22 square miles 488 acres.

CHAPTER II.

SURVEYS AND WORKING-PLANS.

I.—SURVEYS.

20. The topographical survey, under Colonel Pullan, continued the survey on the 4-and 8-inch scales, and that officer reports that 419·75 square miles at a cost of Rs. 34,054 were completed. This represents a cost per square mile of Rs. 81·2, which is a very favourable rate as compared with the previous year's (Rs. 190).

21. As soon as the remaining forests of Eastern Yellápúr and Sírsi and of Kalghatgi have been surveyed, it will not be necessary to survey any more areas on the larger scale, but it appears to be desirable to complete the whole of the compact and valuable teak-forests comprised in this area on the same scale.

II.—WORKING PLANS.

22. Messrs. Oliver and Bell were engaged in the preparation of working-plans for the teak-forests to be tapped by the proposed tramway, but no working-plan has yet been submitted by them. They complain of the difficulty of obtaining labour and ascribe the slowness of the progress made entirely to that cause. It is unfortunate that they have had to commence work in the most unhealthy tracts in the Circle; but, after every allowance has been made for the undoubted difficulties with which they have had to contend, I am quite at a loss to understand the slowness of the progress made, and shall be extremely disappointed if, by the end of next season, they have not completed working-plans for the whole of the teak-forests of the Northern Division of Kánara east of the Káneri-river.

23. The result of their enumerations shows that 4,108 tons of large teak-timber could be safely exploited annually from the area which now supplies the Halliál-market with timber. An annual yield of 13,511 tons of other species could also be obtained, but it appears doubtful that more than 2,000 tons of the latter could be sold.

24. If the forests of the Gund-group could be conveniently exploited in the direction of Halliál 600 tons more teak could be obtained, but they are so very difficult to get at, being cut off by the Káneri-ravine, that, for the present, at all events, it appears preferable to export the produce by means of the Kálánadí to the Kódibág-depôt, on the coast.

25. No determination has been come to in regard to a railway from the Southern Marátha Railway through the tract, above referred to, which now supplies the Halliál-depôt with timber. Since the close of the year, a Committee appointed to investigate the matter (Government Resolution No. 4751 of 8th July, 1890) has, however, submitted a report to Government in which it recommends that a tramway, to be worked by bullock-power, should be made between Halliál and Shiróli, a distance of 21 miles. With the present available means of transport, it is impossible to get out the sustained yield of teak and the estimated saleable quantity of other timber.

26. A justification of the estimated sustained yield of the forests, which would be tapped by the proposed tram, was submitted to Government with my No. 3958 of 23rd December, 1889, and a working-plan for the whole area will, I trust, be ready before a line could be laid between Halliál and Shiróli. It does not seem to be necessary to defer the construction of the line until a working-plan is made, because we know what the sustained yield is; that all the produce to be exploited for the next forty years must come by the route the tram is to take; that the latter will greatly cheapen exploitation; and that it is improbable that we shall be able to work up to the proposed yield unless a tramway be constructed, or a large number of buffaloes and carts be purchased by Government, an alternative which would not pay nearly as well as a tram.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

ESTABLISHMENT.

27. The only change in the *personnel* occurred in Ratnágiri, where 18 men were added to the establishment at a monthly cost of Rs. 224.

28. Revised proposals for the re-organization and training of subordinate establishments were submitted to Government in October by a Committee which sat at Poona during the rains. The want of trained men and of an increase in the number of executive officers is greatly felt.

BREACHES OF THE LAW.

29. The number of prosecutions disposed of by magistrates is as follows:—

No.	Divisions.	1888-89.			1889-90.			Percentage of failures.	
		Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	1888-89.	1889-90.
1	Northern Division of Kánara.	11	2	13	10	4	14	15	28
2	Central Division of Kánara ...	5	3	8	9	3	12	37	25
3	Southern Division of Kánara.	9	9	18	9	13	22	50	59
4	Belgaum	11	1	12	35	7	42	8	16
5	Dhárwár	5	1	6	5	4	9	16	44
6	Kolába	45	9	54	20	4	24	17	16
7	Bijápur	8	3	11	8	2	10	27	20
8	Ratnágiri	4	3	7	5	...	5	42	...
	Total ...	98	31	129	101	37	138	24	26

30. The increase in the number of cases occurs chiefly in Belgaum where it is ascribed to increased efficiency on the part of the subordinates.

31. There is a large increase in the percentage of failures in Dhárwár; for this, the Divisional Officer is unable to furnish conclusive reasons.

32. The cases compounded are shown in the following statement:—

No.	Division.	1888-89.		1889-	
		Number of cases commuted.	Amount of fines recovered.	Number of cases commuted.	Amount of fines recovered.
			Rs. a. p.		Rs. a. p.
1	Northern Division of Kánara ...	20	37 9 2	19	102 2 10
2	Central Division of Kánara ...	9	92 9 7	14	135 5 9
3	Southern Division of Kánara ...	109	401 0 0	140	574 0 0
4	Belgaum	62	307 12 11	99	384 14 0
5	Dhárwár	60	148 12 11	27	26 1 0
6	Kolába	194	855 2 3	189	884 12 9
7	Bijápur	89	174 15 3	93	398 2 0
8	Ratnágiri...	56	252 11 3	93	288 2 8
	Total ...	599	2,270 9 4	674	2,793 9 0

33. Increase in the number of cases compounded is met with chiefly in Belgaum, Southern Division of Kánara, and Ratnágiri. In Belgaum the increase is chiefly owing to cases brought on account of the removal of firewood for sale without permits: and in Southern Kánara it is mainly ascribable to cases concerning the unauthorized cutting of *rāb* by rayats in the Siddápur-sub-division.

34. In Ratnágiri the increase is ascribed to increased efficiency since the entertainment of an additional establishment.

35. A statement showing the number of cases compounded or taken into Court is given below :—

No.	Division.	Taken into Court.		Compromised under Section 67.		Total number of Cases.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
1	Northern Division of Kánara ...	16	11	20	19	36	30
2	Central Division of Kánara ...	13	8	9	15	22	28
3	Southern Division of Kánara ...	55	22	109	140	164	162
4	Belgaum	13	50	62	99	75	149
5	Dhárwár	6	9	60	27	66	36
6	Kolába	58	24	194	189	252	213
7	Bijápur	14	7	89	93	103	103
8	Ratnágiri	7	5	56	93	63	98
	Total ...	182	136	599	675	781	819

36. In paragraph 40 of the administration report for 1888-89, 53 cases were shown to be pending at the close of that year but 37 of these are now reported to have been compounded. If the 16 cases pending at the beginning of the year be added to the 136 of the year under report, the total number as shown in form No. 50, appended, is 152, of which 14 remained undecided at the close of the year.

37. *Civil Suits.*—In Kolába two important suits were decided in favour of Government. In one Ganesh Ramchandra Bedekar claimed Rs 4,569-8-0 for protecting the Chikni forests in Nágothna. The other was a claim to all trees except teak in a Government forest, and was a test-case of great importance.

FOREST-FIRES

38. Were prevalent in the forests not evergreen and not specially-protected.

39. Special measures of protection were adopted for 650,538 acres, of which 79,716 are reported to have been burnt. Fires were most prevalent, in the specially-protected areas, in the Southern and Central Divisions of Kánara. In the Northern Division of Kánara, the protection afforded was, all things considered, extremely good, and reflects great credit on Mr. Talbot, Forest-Ranger Ghosekhán and the officers and men working under them.

40. This is the first year in which special fire-protection on a large scale has been, on the whole, successful in any part of the Southern Circle. The portion protected of the Northern Division of Kánara comprises nearly the whole of the teak-bearing tracts of that Division. Great difficulties had to be contended with. In one day, in the forest near Yermukh in the Gund-group, no less than 14 distinct fires broke out in different parts of the area. In consequence of this determined attempt to fire the jungles, I have applied to Government for permission to close the forest to grazing for a year. The specially-protected area of the Northern Division comprised an area of 299,503 acres, and of this area 54,206 acres, or 18 per cent., are estimated to have been burnt. The special protection in the Central and Southern Divisions was much less satisfactory.

41. Maps showing the fire-lines are prepared every season and carefully scrutinized before being finally approved.

42. The results of fire-protective measures, as reported by the Divisional Officers, are exhibited in the following statement :—

Division.	Area in Square Miles.			Proportion of failures to area attempted.	Cost.		Proportion of area under fire-protection to total area of Reserves.
	Attempted.	Failures.	Protected.		Per Square Mile protected.	Per Acre protected.	
				Percentage	Rs.	Pies.	
Northern Division of Kánara ...	467·97	84·69	383·27	18	16·06	3·9	
Central Division of Kánara ...	135·46	14·88	120·58	10	17·67	4·7	
Southern Division of Kánara ...	131·70	4·48	127·21	3	2·32	·6	
Belgaum	138·47	9·73	128·74	7	11·23	3·1	
Dhárwár	33·51	4·60	28·91	13	16·03	4·1	
Bijápur	72·47	·80	71·69	1	3·16	·9	
Kolába	36·29	5·35	30·94	14	19·87	5·0	
Ratnágiri	·56	...	·56	...	43·16	12·8	
Total in 1889-90...	1,016	125	892	12	12·73	3·8	56
Total in 1888-89...	997	185	812	19	4·33	1·30	55
Increase or Decrease in 1889-90...	+19	—60	+80	—7	+8·40	+2·5	+1

43. I do not feel satisfied as to the accuracy of these returns, and Government will perceive that what I have reported above does not correspond with the divisional statements. Last hot weather I traversed in serveral directions the Northern, Central and Southern Divisions of Kánára in order to be able to judge for myself to what extent protective measures had been successful, and I found that everywhere fire had got into the specially-protected areas of the Central and Southern Divisions, but that fires were rare in protected areas of the Northern Division. It is, no doubt, extremely difficult to estimate the areas burnt, but I fear that the subordinate-officers often purposely furnish wrong returns as they know the great importance that is attached to the protection of the forests from fire, and are afraid of being transferred, or punished, if the reported results of protection are not satisfactory.

44. The system of reporting fires, described in the 111th paragraph of the report on the Northern Circle for 1887-88, has been adopted in the Southern Circle since the receipt of the Government-Resolution on last year's reports.

45. The Government of India have, in their letter to Government, reviewing the reports of the Conservators for 1888-89, contrasted the results of fire-protection in the Northern and Southern Circles very much to the disadvantage of the latter. I cannot account for the great difference in the cost of protecting forests in the two Circles; but it may be partly due to the much larger permament protective establishment of the Northern Circle, to cheapness of labour, and to there being a far smaller proportion of protected forest in that Circle. In the Southern Circle, contiguous patches of reserved and protected occur in most villages and this chess-board arrangement of the two classes over vast areas makes the protection of the reserved areas more expensive than it would be if the classes were more separated.

46. The area which is reported to have escaped fire without the taking of any special measures, amounts to 3,299 square miles, or 65 per cent. of the whole forest-area.

47. The total area of compact evergreen forest is estimated to be 659 square miles.

48. These evergreen forests are situated, for the greater part, on the western slopes of the ghâts of Kánara, and generally escape fire without any measures being taken for their protection.

49. The attempt to eradicate *bakrá*, referred to in the 54th paragraph of last year's report, has not been successful. Mr. Murray reports that fresh *bakrá* is springing up in the old places

GRAZING AND FENCING.

50. The improvement in the returns for grazing under the new regulation, referred to in parargaph 55 of last year's report, regarding the issue of permits to graze cattle, was not quite as large as was expected; still it amounted to Rs. 5,485, of which Rs. 4,197 were realized in the Belgaum Division. It should also be noted that the increased return is in spite of increased closures.

51. The following statement shows the areas closed to grazing during 1888-89 and 1889-90:—

Division.	Area closed.			
	1888-89.		1889-90.	
	Sq. miles.	Acres.	Sq. miles.	Acres.
Northern Division of Kanára	...	...	181	279
Belgaum	19	7	19	7
Dhárwár	58	325	93	142
Bijápur	...	...	10	174
Kolába	6	567	6	567
Total ...	84	259	310	529

52. No fencing was put up with the exception of a fence round 45 acres in the Gókák-Range.

NATURAL REPRODUCTION.

53. *Northern Division of Kánara.*—The information furnished by the Divisional Officer is meagre, but there can be no doubt that the very successful protection afforded there against fire will have a good effect on natural reproduction by seed.

54. *Central Division of Kánara.*—The Divisional Officer reports that in the Yellápur-sub-division reproduction by seed is on the whole good, and that teak seedlings are plentiful, but that in the rocky tracts bordering the coast, and in the more open and fire-traversed tracts of the Mundgod-Range, reproduction is not good.

55. *Southern Division of Kánara.*—Mr. Woodrow reports that reproduction by seed is bad owing to the prevalence of fires. More effective and extensive operations are required here for the protection from fire of reserved areas.

56. *Belgaum.*—Mr. Murray reports that in the timber-forests of Khánápúr, there was good reproduction from seed owing to the entire absence of fire, but that in the more eastern tracts owing to the annual fires, it is almost at a standstill in areas not specially-protected.

57. *Dhárwár.*—Mr. Hight has not repored on the state of natural reproduction by seed in this Division. The jungles are all small and open and depend mostly on coppice and artificial means for their regeneration.

58. *Bijápur,*—Mr. Ryan reports that ním-seedlings are appearing in the neighbourhood of Guledgudd, but that natural reproduction is on the whole very poor in the Bijápúr-District owing to the uncertain and inferior rainfall and the heavy demands on the forests by the surrounding population.

59. The forests generally are so poor that they ought to be closed for a long period, but the demand for firewood does not admit of complete closure. Portions are, however, being selected for closure and some have been already closed.

60. *Kolába-Ratnágiri.*—The Divisional Officer does not refer to the state of natural reproduction by seed. The forests here are mostly coppice, and he reports favourably of the reproduction from stools.

61. *General.*—All officers, except Mr. Ryan (Divisional Officer, Bijápur,) report favourably of reproduction from stools.

62. On the whole, the reports speak more favourably of reproduction by seed during the past season. All that is necessary to ensure natural reproduction in all the most valuable timber forest-tracts is protection from fire and grazing, and considerable progress has been made this year in these respects.

ARTIFICIAL REGENERATION.

63. *Northern Division of Kánara.*—11,500 plants of casuarina were put down in the Kárwár plantations, and a nursery containing 8,000 more was prepared.

64. *Central Division of Kánara.*—In the Mundgód-range, 7 bags of teak-seeds, and 9 bags of seeds of other species, were sown in the Pur, Bachenki, Sanvalli and Márgaddi jungles, and Mr. Haselden reports that the seeds germinated freely and that the seedlings have survived excepting some which were destroyed by fire.

65. In the Kumtá-range 5 bags of teak-seeds and 4 of other species were sown, but only 60 junglewood and 40 teak-seedlings have survived the hot weather. The cost was, however, *nil.*

66. Nine sacks of teak-seeds, 9 of junglewood-seeds and 1 of hardás were collected and sown in nurseries at Katgál and Kuchalnád. Up to the beginning of July 3,000 teak, 185 junglewood and 10 hardás had germinated, and were to be planted out in the forest during the present rainy season.

67. In Ankóla 4 sacks of teak-seeds, 1 of blackwood-seeds and 15 of junglewood-seeds were collected and sown in the jungles near Hattikeri and Rámangóli, and are reported to have germinated freely.

68. In the Yellápúr-range a cart-load of seeds was sown under dying *kárvi*, and, by the first of July, 379 teak, 6 blackwood and 29 junglewood had appeared.

69. 2,088 junglewood-seedlings were planted out from nurseries of which, it is expected, half will survive.

70. *Southern Division of Kánara.*—In the casuarina-plantation of Kásarkód 1,040 plants were attacked by some unknown disease, which is spreading and will, it is feared, kill all the trees in the plantation. Specimens of the diseased trees were sent to the Entomologist at Dehra Dun in December last, but no reply has been received from him, so it is presumed that no cure is known.

71. Mr. Woodrow reports that seeds were collected and sown broad-cast, but that the sowings proved failures, probably owing to suitable sites not having been selected for the purpose.

72. *Belgaum.*—45 acres were fenced and sown broad-cast with seeds of nim, matti and kindali; and Mr. Murray reports that a large number of plants have come up, and survived the hot weather.

Seeds were also collected in the Belgaum and Khánápúr sub-divisions, and nurseries prepared in 11 places in Belgaum, 4 in Khánápúr and 1 in Parasgad.

73. *Dhárwár.*—Mr. Hight reports on the very successful teak-plantation of 125 acres near Kalkundi in the Kalghatgi-sub-division; the whole of it, when he saw it in January, and again in April, was well-stocked with thriving seedlings.

74. About 10 maunds of seed were collected.

75. The system of sowing followed by Mr. Hight is to pick up and loosen the soil in patches and to sow in the patches, and he considers this method more successful than merely sowing broad-cast. In the Dhárwár District the soil in the forests is generally hard or weedy and no doubt broad-cast sowing without previous preparation of the ground for the reception of the seed would

not answer. Mr. Hight gives no particulars as to the area sown in this manner, although he says that the results are not discouraging.

76. *Bijápur.*—Attempts at artificial regeneration in 1889 were not successful on the whole. 14,000 pits were dug in the jungles and sown with seeds, but the sites of such operations were badly chosen owing to absence of shelter, and the plants died of drought.

77. 892 maunds of seeds were collected.

78. *Kolába-Ratnágiri.*—Nothing important in the way of artificial regeneration was effected in this division. 750 casuarinas were planted out at Sáttád.

79. The Divisional Officer reports that the old casuarina plantations in Chiplún and Málvan, aggregating 103 acres, are not flourishing, and no extension of either was carried out. The Dápoli plantation of 119 acres is reported to be very flourishing.

COMMUNICATIONS AND BUILDINGS.

80. A sum of Rs. 5,494 was expended on works under this head: on "Roads and Bridges", Rs. 572; "Buildings", Rs. 4,685; and Other Works, Rs. 237.

81. In the Northern Division of Kánara Forest cart-tracks were repaired (Rs. 43) and a building for the Divisional Office was built at Halliál (Rs. 350).

82. In the Central Division of Kánara the Hittalkargadda-Mágód, and Kannigeri-Udamaki, roads, as well as cart-tracks, were repaired (Rs. 447); two new watch-houses were built (Rs. 550) and a building for a Náká at Bálegúli was purchased from the Postal Department (Rs. 300).

83. In the Southern Division of Kánara the forest road from Manchikeri to the Kátur-Depôt and other tracks were repaired (Rs. 57). A new watch-house was built (Rs. 300) and Rs. 766 were expended in completing the office-quarters of the Divisional Officer.

84. In Belgaum two new watch-houses were built (Rs. 560) and the rest-house at Nágargali was repaired (Rs. 251).

85. In Dhárwár, the Dévikóp rest-house and certain watch-houses were put in repair (Rs. 308).

86. In Ratnágiri the Bándh-road was repaired (Rs. 25).

CHAPTER IV.

YIELD AND WORKING.

87. The following is a summary of the yield of the forests of the several Divisions for 1888-89 and 1889-90:—

88. *Northern, Central and Southern Divisions of Kánara.*—The large teak exploited during 1889-90 amounted to 247,375 cubic feet against 250,576 cubic feet in 1888-89; the small teak exploited, such as poles and rafters, amounted to 72,640 cubic feet against 80,401 cubic feet. There was a falling off in the quantity brought in to the Halliál-Depôt (which was 95,827 cubic feet against 97,907 cubic feet in 1888-89). The exploitation of timber was restricted for a time in anticipation of an early decision of Government regarding the construction and route of the proposed railway from Gund, which would have greatly cheapened the cost of transport as compared with that of cartage.

89. The out-turn of sleeper-pieces also shows a decrease (16,230 cubic feet in 1889-90, and 46,657 in 1888-89). There is no demand for railway-sleepers now.

90. The large junglewood removed amounted to 322,080 cubic feet against 314,090 cubic feet in the previous year, and the poles, pieces and stakes to

10,146 against 11,805. The quantities extracted in the Central and Southern Divisions of Kánara were larger than those of the previous season, but the yield of the Northern Division was less for the reason given in paragraph 88. For the same reason, the yield of blackwood shows a decrease: it was 8,426 cubic feet in 1889-90 and 18,246 cubic feet in 1888-89. The blackwood poles, pieces, &c., were 531 against 154 cubic feet in 1888-89.

91. The number of bamboos extracted rose from 4,628,641 in 1888-89 to 4,830,535 in 1889-90; and the quantity of myrabollams from 4,356 khandis (worth Rs. 43,658) to 4,651 khandis (worth Rs. 47,966). But the firewood exploited fell from 2,365,466 cubic feet to 1,140,224 cubic feet; and the out-turn of sandalwood from 73 khandis to 57.

92. The increase in the number of bamboos is met with in Halliál of the Northern Division of Kánara, and in Sirsi of the Southern. The bamboo-traffic of the former sub-division will, it is feared, be greatly affected by the two tolls newly opened on the Halliál-Bhágwati, and Halliál-Alnávar, roads. A smaller quantity of firewood was sold for export because a large quantity which remained with the merchants at the close of the previous year lessened the demand.

93. The quantity of charcoal removed measured 5,448 cubic feet against 2,351 cubic feet.

94. *Belgaum.*—The year's yield of the division shows an increase under almost all heads.

95. The large dead teak exploited during 1889-90 amounted to 4,047 cubic feet against none in the previous year. The out-turn of black and junglewood measured 5,447 cubic feet and 14,720 cubic feet respectively, against 351 cubic-feet and 2,040 cubic feet during the previous year. Of teak-poles, branchwood and pieces, there were 23,939 cubic feet, against 21,379 cubic feet; and of black-and junglewood poles and pieces, 240 cubic feet and 14,467 cubic feet, respectively, against 63 cubic feet and 12,797 cubic feet during the previous year.

96. The quantity of running-fuel exploited for the Southern Marátha Railway Company was nearly double that of the previous year; it rose from 1,027,398 to 1,876,051 cubic feet, and the firewood removed for other purposes from 672,350 to 696,350 cubic feet.

The result of cuttings on over 2,000 acres of the forests which supply running fuel for the Southern Marátha Railway show that the original estimate of sustained yield was 35 per cent. under the actual yield; the error is partly due to over-caution in estimating the yield, and partly to a reduction since the estimate was made of the minimum diameter of the fuel-pieces from 4 to 3 inches. The opening of the new station of Devrái will enable us to utilize jungles not previously brought within the scope of proposed railway-fuel operations, and will increase the sustained yield by at least 1,000 tons. About 50,000 tons may, therefore, be taken as the sustained fuel-yield of the tract in Belgaum which supplies firewood for the Railway. The demand has now risen—owing to the rise in the price of coal—to 70,000 tons. It is impossible to say how long this demand will continue, but, considering that, before the rise in the price of coal it amounted to 45,000 tons, it is scarcely likely, with increasing traffic, to fall within a measurable period below the sustained yield of the Belgaum tract above referred to. 50,000 tons are equal to 3,400,000 cubic feet, and it appears very doubtful that so large a quantity can be got out without a tramway. I note the remark in paragraph 13 of the Government of India's letter, that we have been working the forests unfairly by exploiting tracts closer to the line than the average lead for the whole area. This was done in the hope that either the Railway Company, or the Forest Department, would very shortly be able to employ trams for the transport of the fuel, carriage by means of carts being reckoned insufficient for the exploitation of the sustained yield from a distance equal to the average lead of the whole tract. This mistake will now be rectified and the forest so worked that the fuel cut in any year shall always be brought about the same average distance—2½ miles.

97. The yield of myrabollams was 6,311 khandis (worth Rs. 56,441) against 6,655 (worth Rs. 57,180) in the previous year. The collection was poor

and the harda-nuts were light. The number of bamboos extracted rose from 564,399 to 1,191,073.

98. *Dhárwár.*—The yield of teak (23,000 cubic feet in 1889-90 against 28,700 cubic feet in 1888-89) and junglewood-rafters (2,000 cubic feet against 2,500 cubic feet) shows a decrease; so does that of *jeráyeti*-wood (10,000 cubic feet against 13,300). But the out-turn of firewood removed by carts rose from 5,130 in 1888-89 to 6,102 in 1889-90, and that removed by animal-loads from 6,960 to 13,512. The quantity removed by head-loads fell from 32,728 to 26,610 cubic feet, and the stacks taken from coupes, from 205,092 cubic feet to 200,160. The yield of sandalwood was 26 khandis against 22 of the previous year. The number of bamboos extracted was 416,283 against 560,341.

99. *Bijápur.*—The yield of timber and firewood was as follows:—

		1888-89.		1889-90.	
Jantis. ...	... Head-loads =	60,541	Cubic-feet.	51,283	cubic-feet.
Firewood....	... Cart-loads =	54,468	,,	50,148	,,
Do. ...	...Animal-loads =	128,204	,,	71,976	,,
Do. ...	... Head-loads =	115,764	,,	128,679	,,

Kolába-Ratnágiri.

100. *Kolába.*—The yield of teak-trees amounted to 658,000 cubic feet against 504,525 in 1888-89, and of teak-beams to 35,000 cubic feet against 77,810 cubic feet.

101. The firewood removed amounted to 97,048 cubic feet against 92,000 cubic feet.

102. A rough estimate of yield appears to warrant a higher one than that exploited in previous years.

103. *Ratnágiri.*—The out-turn of teak was 102,708 cubic feet against 98,370. 206 cubic feet of *injáili* timber were also extracted during the year under report; but the firewood removed amounted to only 1,080 cubic feet against 2,200 cubic feet of the previous year.

104. The Saw-Mills at Kannigeri, in Kánara, were closed on the 31st May 1889, and advertised for sale under Government orders. During the year, three engines, the major portion of the machinery, and some minor stores and tools, were sold for Rs. 7,278. Most of the machinery was old.

105. The receipts during the year at the mills up to the date on which they were closed amounted to Rs. 12,509 and the expenditure Rs. 3,645.

CHAPTER V.

FINANCIAL RESULTS.

106. The details of the year's transactions are shown in forms Nos. 58 to 62, appended.

107. The receipts and expenditure of the Southern Circle for the years 1888-89 and 1889-90 were—

Year.	Receipts.	Charges.	Surplus or Net Revenue.
	Rs.	Rs.	Rs.
1888-89	12,73,554	6,75,601	5,97,953
1889-90	13,25,676	6,50,343	6,75,333

108. The increase is mainly due to the sale of a larger quantity of fuel to the Southern Marátha Railway Company in Belgaum, and of standing teak in Kolába. The quantity exploited in either case is well within the estimated sustained yield of the tracts treated.

109. The gross revenue of the year exceeds that of 1888-89 by Rs. 52,122 and the net revenue by Rs. 77,380. The charges are less by Rs. 25,258.

110. The following shows the revenue and outstandings at the end of the year :—

year.	Amount realized.	Balance due to the Department at the end of the year.
	Rs.	Rs.
1888-89	12,73,554	1,99,485
1889-90	13,25,676	2,29,425

111. The actual profit to be credited to the year 1889-90 was, therefore, Rs. 6,75,333+2,29,425—1,99,485=Rs. 7,05,273.

112. The following statement shows the receipts and charges for 1883-89 and 1889-90 under each main head :—

Heads of Revenue and Charges.	1888-89.	1889-90.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
RECEIPTS.				
I.—Timber and other produce removed from forests by Government agency ...	8,78,590	9,10,829	32,239	...
II.—Timber and other produce removed from the forests by consumers or purchasers	3,87,412	4,00,074	12,662	...
III.—Confiscated, drift and waif wood ...	1,561	2,193	632	...
IV.—Revenue from forests not managed by Government	66	214	148	...
V.—Miscellaneous	5,925	12,366	6,441	...
Total ...	12,73,554	13,25,676	52,122	...
CHARGES.				
A.—Conservancy and Works.				
I.—Timber and other produce removed from the forests by Government agency	3,34,836	3,16,846	...	17,990
II.—Timber, &c., removed from forests by consumers or purchasers ...	7,038	5,847	...	1,191
III.—Confiscated, drift and waif wood ...	49	75	26	...
V.—Rent of leased forests and payments to share-holders in forests managed by Government ...	9,476	5,231	...	4,245
VI.—Live-stock, stores, tools and plant .	1,998	1,578	...	420
VII.—Communications and buildings ...	6,740	5,494	...	1,246
VIII.—Demarcation, improvement and extension of forests ...	61,191	62,303	1,112	...
IX.—Miscellaneous	1,126	1,951	825	...
Total A...	4,22,454	3,99,325	1,963	25,092
B.—Establishments.				
I.—Salaries	2,05,222	2,03,398	...	1,824
II.—Travelling allowances... ...	33,170	33,854	684	...
III.—Contingencies	14,755	13,766	...	989
Total B....	2,53,147	2,51,018	684	2,813
Total Charges, A. & B.	6,75,601	6,50,343	2,647	27,905

Receipts.

113. The receipts show an increase under all main heads. The increase against I is met with as follows:—Rs. 23,721 under '*b* Firewood', Rs. 9,871 under '*d* Sandalwood' and Rs. 13,444 under '*e* Grass and other minor produce.' The increase is due (1) to the sale of a larger quantity of fuel supplied to the Southern Marátha Railway Company, (2) to the sale of some sandalwood remaining over from the previous year's supply and to better rates obtained for that wood, and (3) to a better crop of myrabollams in the Southern Division of Kánara. The prices obtained for hardás were also higher.

114. On the other hand '*a* Timber' shows a decrease of Rs. 14,744, which occurs in the Central Division of Kánara (Rs. 26,675), in Belgaum (Rs. 8,469), Dhárwár (Rs. 31,172) and Kolába (Rs. 3,578). In the two first-named Divisions, the value of a part of what was sold was not credited in the year's receipts. The decrease in the Central Division of Kánara was also partly due to the contractors having failed to bring in the required quantity of timber on account of the epidemic which decimated the number of their work-people. In Dhárwár a smaller quantity was exploited owing to diminished demand; and, in Kolába, departmental operations were reduced because better prices were realizable by the sale of standing timber. The figures of the Northern Division of Kánara, however, show an increase of Rs. 55,631, which is due to the sale of a larger quantity of timber.

115. The sub-head 'II*a*' shows an increase of Rs. 32,155. This is ascribable to a better demand for wood for export in Kolába and in the Northern Division of Kánara, and for local use in Southern Kánara. In Belgaum a greater quantity of timber-standards in fuel cuttings was sold. On the other hand, 'II*b* Firewood' shows a decrease of Rs. 16,252, which occurs in the Northern and Central Divisions of Kánara and in Kolába. In the Central Division of Kánara, it is reported that fuel-contractors failed to pay the full amount due during the year, and in the two other divisions there was less demand for fuel. Receipts under '*d* Grazing and fodder grass' show an improvement.

116. The increase appearing under V is owing (1) to fines levied on contractors for breach of their agreements, (2) to a sum of Rs. 3,627 paid by the Southern Marátha Railway Company for land, and (3) to carts and cattle (worth about Rs. 1,500) having been sold in Belgaum.

Expenditure.

A.—Conservancy and Works.

117. The decrease under 'I*a*' (Rs. 40,750) is owing to a corresponding decrease in revenue. The closing of the saw-mills in the Central Division of Kánara also effected a saving of Rs. 11,554. The increase under I*b* and *e* is due to an increase of revenue under the corresponding heads of receipts.

118. The decrease under II is owing to remuneration, due for several years, having been paid to village-officers during 1888-89 in the Southern and Northern Divisions of Kánara and in Dhárwár. That under V and VII is due (1) to smaller payments to Khots and Rakhwáldárs in Kolába, and (2) to less expenditure incurred on 'Roads and Bridges.' Under VIII*a* and *e* there are increases of Rs. 2,999 and Rs. 5,196, respectively, due to increased operations connected with the demarcation of forests in the Central and Northern Divisions of Kánara, and to expenditure on fire-protection.

119. On the other hand, the expenditure under 'VIII*c*' shows a decrease of Rs. 6,628, which is due to less expenditure on organization-work.

B.—Establishments.

120. The decrease under this head is Rs. 2,129, which is mainly ascribable partly to there being no separate Divisional Officer for Ratnágiri, and partly to absence of officials on leave.

121. The following shows the value, calculated at seigniorage-rates, of the forest produce granted free:—

Division.	Value of free grants made during						Remarks.
	1888-89.			1889-90.			
	Rs.	a.	p.	Rs.	a.	p.	
Northern Division of Kánara ...	15,225	10	9	4,598	9	11	
Central Division of Kánara ...				6,148	12	5	
Southern Division of Kánara ...				4,439	11	4	
Belgaum	130	7	5	141	13	3	
Dhárwár...	.....			35	0	0	
Kolába	94	0	0	834	15	1	
Ratnágiri	.....			35	0	0	
Total ...	15,450	2	2	16,233	14	0	

CHAPTER VI.

GENERAL REMARKS.

FINANCIAL RESULTS.

122. The improvement in net revenue, anticipated in last year's report, has been realized, and will no doubt continue during the current year; but in order to fully develop the resources of the Supa-forests, it will be necessary to construct the bullock-tramway, from Shiróli to Halliál, unanimously recommended by the members of the Committee appointed by Government to consider the question.

HEALTH, &c., OF ESTABLISHMENTS.

123. The influenza epidemic caused an unusual amount of sickness, particularly in Kánara, and nearly all members of the executive and protective establishments suffered severely from it at a time when their services were most required. Sickness was also more prevalent than usual amongst the villagers who are employed by the Forest Department, and this, added to an outbreak of anthrax amongst the cattle employed by them, seriously affected the exploitation of timber in Kánara.

124. I am pleased to be able to report favourably on the work of the superior officers serving in the Southern Circle. Mr. H. Mitra, whose conduct during the previous year was not satisfactory, is reported to have done much better during the year under report.

125. The Divisional Officers have specially brought to my notice the good work done by the following officers:—

Forester Mahableshwar Nágapá, Range-Forest-Officer.

Forester Sheshgir Govind.

Forester Abdul Rauf, Range-Forest-Officer.

Belgaum Divisional Office Head-Clerk F. X. Saldanha.

Ranger Ganpat Rege.

Forester Hassan valad Mohidin, Range-Forest-Officer.

TOUR OF INSPECTION.

126. On the 1st April, I was at Poona on my way to Belgaum from Kolába, and on the 12th I arrived at Hemadge in the Belgaum District. From Hemadge I went to Anmod in the Northern Division of Kánara, and thence to Birchi and Jagalbet. From Jagalbet I passed through the reserves, extending along the Railway, which furnish fuel for the locomotives, to Nágargáli, which was reached on the 15th May, and on the 18th, I went into Head-Quarters for the rains.

127. On the 19th of November, I reached Bágalkot, in the Bijápúr District, where I met the Divisional Officer, and then went *viâ* Sirur to Bádámi. There I saw the results of some experiments in the planting-up of bare spaces on hill-tops and then proceeded to Gowankop and on the 10th to Nargund in the Dhárwár District. From Nargund, I marched *viâ* Annigeri, Hubli and Tadas, to Dundshi where I arrived on the 25th December. On January 4th, I arrived at Sanawalli on the borders of Kánara and Dhárwár, noting, as I passed through the forests, that the jungles between Sanawalli and Dundshi had already been swept by fire.

128. From Sanawalli I went to Sirsi, the Head-Quarters of the Southern Division of Kánara, *viâ* the Singanhalli-depôt, Pála and Yekumbi. At Sirsi I met the Divisional Officer, and proceeded on the 20th January to Sonda, and thence *viâ* Manchikeri to Yellápur. At Yellápur I met the Forest Settlement Officer and the Collector, and prepared, in conjunction with them, a draft of rules under section 31 of the Forest Act for the forests of Kánara.

129. Leaving Yellápur on the 28th January, I marched *viâ* Tátwhál, Bomanhalli and Virnoli to Amgám and Shiroli, meeting there Messrs. Oliver and Bell, the Assistant Conservators engaged in the organization of the tracts to be traversed by the proposed forest-railway. I then proceeded *viâ* Joida, Kumbárvádá, Jaláli, and Kadrá to Kárwár, where I met the Divisional Officer of the Northern Division of Kánara, and then marched to Samjoida and Dudhmálá, where I arrived on the 25th of March.

130. On my tour in the above-ghát tracts west of the Sirsi-Yellápúr road, I noted the destruction of forests caused by the cutting of *ráb* for *supári*-gardens. I also noticed that *supári*-gardens were being largely extended by the conversion of rice lands. This extension of garden-lands is a very serious matter, as the people already complain that the area allotted for *ráb* is insufficient for the requirements of existing gardens, and sooner or later great pressure will be brought to bear on Government to allot fresh *ráb*-lands from the remnants of the forest not already given up. I also observed numerous cases in which forests not allotted for *ráb*, and reserved trees in *ráb*-allotments had been lopped and even pollarded. The offenders have been let-off with the payment of nominal sums as compensation, but are to be prosecuted for repeated offences.

131. Rules under the Forest Act for the lopping of trees on *ráb*-lands were submitted to, and, with some modification, have been approved by, Government. The owners of garden-lands are extremely reckless in the treatment of *ráb*-forests. If the rules now sanctioned can be enforced, devastation of *ráb*-forests may perhaps be arrested.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle:
Belgaum, 18th October 1890.

LIST OF STATEMENTS ACCOMPANYING THE FOREST ADMINISTRATION REPORT OF THE CONSERVATOR OF FORESTS, SOUTHERN CIRCLE, FOR 1889-90.

Form No. 49	Area of Reserved Forests, 1889-90.
„ „ 49A	Area of Protected Forests, 1889-90.
„ „ 50	Prosecution for breaches of Forest Rules during 1889-90.
„ „ 51	Area of Forest tracts protected from fire during the dry season of 1890.
„ „ 52	Area of Plantations, 1889-90.
„ „ 54	Outturn of Timber and Fuel, 1889-90.
„ „ 55	Outturn of minor Forest Produce, 1889-90.
„ „ 56	Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1889-90.
„ „ 57	Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1889-90.
„ „ 57A	Abstract showing the value of Dead-stock for the year 1889-90.
„ „ 58	Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.
„ „ 59	Account Current for the year 1889-90.
„ „ 60	Revenue received and Outstandings on account of Revenue during 1889-90.
„ „ 61	Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.
„ „ 62	Financial Results of the year 1889-90.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 49.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Reserved Forests, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	AREA ON 1ST APRIL 1889.		ADDED DURING THE YEAR.	EXCLUDED OR TRANSFERRED TO OTHER HEADS.	AREA ON 31ST MARCH 1890.		No. and Date of Notification of addition or transfer.	REMARKS.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
1 Northern Division, Kánara.	Kánara ...	Halliál and Kárwár	298,437	466	...	...	298,437	466	.....	
2 Central Division, Kánara.	Do. ...	Mundgod and Ankola	117,359	184	...	...	117,359	184	.....	
3 Southern Division, Kánara	Do. ...	Sirsi	21,771	34	...	...	21,771	34	.....	
4 Belgaum ...	Belgaum ...	Khánápur, Belgaum, Sampgaon, Gokák, Chikodi and Athni.	316,579$\frac{7}{10}$	495	...	...	316,579$\frac{7}{10}$	495	.....	
5 Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Hángal, Bankápur, Kod, Gadag, Ron, Nargund, Hubli and Ránebennur.	109,850$\frac{5}{10}$	172	...	...	109,850$\frac{5}{10}$	172	.....	
6 Bijápur ...	Bijápur ...	Bádámi, Hungund, Bijápur, Bágevádi, Muddebihál and Indi.	99,275$\frac{13}{16}$	155	...	...	99,275$\frac{13}{16}$	155	.....	
7 Kolába ...	Kolába ...	Alibág, Panvel, Pen, Roha, Mahád and Mángaon.	188,150$\frac{8}{8}$	294	...	...	188,150$\frac{8}{8}$	294	.....	
8 Ratnágiri ...	Ratnágiri ...	Dápoli, Khed, Rájápúr, Málvan, Chiplún and Sangameshvar.	12,760$\frac{8}{8}$	20	152$\frac{11}{16}$	$\frac{7}{10}$	12,912$\frac{8}{8}$	20$\frac{7}{10}$	No. 4070 of 4th June 1889 and No. 8224 of 29th October 1889.	
		Total ...	1,164,183$\frac{13}{16}$	1,820	152$\frac{11}{16}$	$\frac{7}{10}$	1,164,336$\frac{7}{10}$	1,820$\frac{7}{10}$		

Conservator's Office, Southern Circle :
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 49 A.

Forest Department, Bombay, Southern Circle.

Area of Protected Forests, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		No. and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square miles.		
1 Northern Division, Kánara.	Kánara ...	Supa	462,944	723	...	...	462,944	723	.....	
2 Central Division, Kánara.	Do. ...	Yellápur, Mundgod, Kumta and Ankola.	568,209	888	...	92$\frac{17}{20}$	568,116$\frac{3}{20}$	888	Nos. 8377 of 4th November 1889 and 2320 of 31st March 1890.	
3 Southern Division, Kánara.	Do. ...	Sirsi, Siddápur, Honávar and Bhatkal.	802,438	1,254	...	5$\frac{11}{20}$	802,432$\frac{9}{20}$	1,254	Nos. 6490 of 3rd September 1889 and 1094 of 10th February 1890.	
4 Belgaum ...	Belgaum ...	Belgaum, Chikodi, Gokák and Parasgad.	126,011$\frac{11}{20}$	197	...	...	126,011$\frac{11}{20}$	197	.....	
5 Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Bankápur, Kod, Hángal, Gadag, Ránebennur, Karajgi and Hubli.	166,659	260	...	...	166,659	260	.....	
6 Bijápur ...	Bijápur ...	Bágalkot, Hungund, Bijápur, Bágevádi and Indi.	364	1	...	...	364	1	.....	
7 Kolába ...	Kolába ...	Alibág, Panvel, Pen, Roha, Mahád, Mángaon and Nágothna.	56,926$\frac{1}{4}$	89	...	...	56,926$\frac{1}{4}$	89	.....	
		Total ...	2,183,552$\frac{7}{20}$	3,412	...	98$\frac{17}{20}$	2,183,453$\frac{3}{4}$	3,412		

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 50.

Forest Department, Bombay, Southern Circle.

Register of breaches of Forest Rules during 1889-90.

Forest Division.	Cases pending from 1888-89.	New cases of the year: Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year: Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of year.
Northern Division of Kánara. A	3	1	10	...	...	11	14	10	13	4	11	14	24	...
B	...	...	19	...	...	19	19	19	19	...	...	19	19	...
C	...	...	7	...	...	7	...	...	...	...	...	...	...	...
Total	3	1	36	...	...	37	33	29	32	4	11	33	43	...
Central Division of Kánara. A	5	...	6	...	2	8	13	9	19	3	5	12	24	1
B	...	...	14	...	1	15	15	14	16	1	1	15	17	...
C	...	3	7	...	1	11	...	...	...	...	...	...	...	...
Total	5	3	27	...	4	34	28	23	35	4	6	27	41	1
Southern Division of Kánara. A	...	...	22	...	...	22	22	9	13	13	32	22	45	...
B	37	...	103	...	...	103	140	140	430	...	...	140	430	...
Total	37	...	125	...	...	125	162	149	443	13	32	162	475	...
Belgaum ... ... A	1	2	39	...	9	50	51	35	105	7	15	42	120	9
B	...	3	93	...	3	99	99	99	353	...	...	99	353	...
C	...	1	29	...	...	30	...	...	...	...	...	...	...	...
Total	1	6	161	...	12	179	150	134	458	7	15	141	473	9
Dhárwár ... ... A	...	...	8	...	1	9	9	5	10	4	10	9	20	...
B	...	...	27	...	...	27	27	27	127	...	...	27	127	...
Total	...	...	35	...	1	36	36	32	137	4	10	36	147	...

Bijápur	A ...	3	...	7	...	...	7	10	8	22	2	14	10	36	...
	B ...	...	...	93	...	...	93	93	93	246	...	...	93	246	...
	Total ...	3	...	100	...	...	100	103	101	268	2	14	103	282	...
Kolába	A ...	4	3	19	1	1	24	28	20	132	4	10	24	142	4
	B ...	...	5	139	...	45	189	189	189	646	...	...	189	646	...
	Total ...	4	8	158	1	46	213	217	209	778	4	10	213	788	4
Ratnágiri	A ...	...	...	2	2	1	5	5	5	9	...	...	5	9	...
	B ...	...	5	70	2	16	93	93	93	250	...	...	93	250	...
	Total ...	...	5	72	4	17	98	98	98	259	...	...	98	259	...
Grand Total ...	A ...	16	6	113	3	14	136	152	101	323	37	97	138	420	14
	B ...	37	13	558	2	65	638	675	674	2,087	1	1	675	2,088	...
	C ...	...	4	43	...	1	48	...	...	...	...	...	...	...	...

A.—Means cases taken into court.
B.—Means cases disposed of under Section 67 of Indian Forest Act, 1878.
C.—Means undetected cases.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 51.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Forest Tracts protected from Fire during the Dry Season, 1890, to accompany Report for 1889-90.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1889.	During the Dry Season of 1890.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.			Rs. a. p.	
Northern Division of Kánara.	Kárwár Range Forests ...	1887-88 ...	12,177	12,392	3	12,389	516 7 0	
	Halliál do. ...	,, ...	118,525	131,367	7,200	124,167	3,257 5 0	
	Supa do. ...	1888-89 ...	60,000	155,744	47,003	108,741	2,381 15 0	
	Total ...	.....	190,702	299,503	54,206	245,297	6,155 11 0	
Central Division of Kánara.	Yellápur Range Forests ...	1888-89 ...	79,861	43,696	9,392	34,304	851 13 0	
	Mundgod do. ...	,, ...	47,791	35,788	100	35,688	1,056 3 6	
	Ankola do. ...	,, ...	99,524	7,211	32	7,179	222 14 6	
	Total ...	.....	227,176	86,695	9,524	77,171	2,130 15 0	
Southern Division of Kánara.	Sirsi Range Forests	1887-88 ...	23,651	84,289	2,870	81,419	295 5 6	
Belgaum Division.	Chikodi Range Forests ...	1883-84 ...	10,425	2,816	...	2,816	33 2 0	
	Khánápur do. ...	1884-85 ...	5,339	51,634	6,084	45,550	1,188 3 0	
	Belgaum do. ...	1886-87 ...	7,580	13,120	...	13,120	114 6 0	
	Gokák-Sampgaon Forests ..	1887-88 ...	11,877	21,056	145	20,911	110 4 0	
	Total ...	.....	35,221	88,626	6,229	82,397	1,445 15 0	
Dhárwár Division.	Dhárwár Range Forests ...	1888-89 ...	6,121	3,013	14	2,999	154 4 6	
	Kalghatgi do. ...	,, ...	6,835	7,824	2,272	5,552	153 11 6	
	Bankápur do. ..	,, ...	2,337	5,036	600	4,436	55 8 0	
	Hángal do. ...	,, ...	...	1,755	50	1,705	21 9 0	
	Kod do. ..	,, ...	8,052	111	10	101	16 8 0	
	Gadag do. ...	,, ...	6,400	3,711	...	3,711	62 1 0	
	Total ...	.....	29,745	21,450	2,946	18,504	463 10 0	
Bijápur Division.	Bádámi Range Forests ..	1889-90 ...	...	25,882	500	25,382	84 8 6	
	Bágalkot do.	,, ...	...	20,503	15	20,488	142 7 11	
	Total ...	.....	...	46,385	515	45,870	227 0 5	
Kolába Division.	Pen Range Forests	1888-89 ...	4,381	4,859	...	4,859	182 0 0	
	Nágothna do.	,, ...	6,147	6,147	...	6,147	158 1 0	
	Roha do.	,, ...	5,986	7,752	...	7,752	196 14 0	
	Mángaon do.	,, ...	344	344	...	344	10 4 3	
	Panvel do.	,, ...	700	700	...	700	67 12 0	
	Alibág do.	1889-90 ...	...	3,426	3,426	...	.....	
	Total ...	.....	17,558	23,228	3,426	19,802	614 15 3	
Ratnágiri Division.	Dápoli Range Forests ..	1889-90 ...	...	172	..	172	10 8 0	
	Málvan do. ...	,, ...	...	190	...	190	13 10 9	
	Total ...	...	..	362	..	362	24 2 9	
	Grand Total ...	.....	524,053	650,538	79,716	570,822	11,357 10 11	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Plantations, 1889-90.

Division.	Name of Plantation.	Area in Acres. On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Receipts. Of the year. Rs. a. p	Charges. Of the year. Rs. a. p.	Remarks.
	Regular Plantations.							
Northern Division of Kánara.	Kadra	357	..	..	357	....	334 1 3	
	Mardi	110	..	..	110	....	133 4 0	
	Sulgeri	110	..	..	110	....	244 10 0	
	Kárwár	123	..	..	123	651 8 0	128 0 0	
	Bingi	20	..	..	20	186 11 6	60 2 0	
	Argé	20	5	..	25	....	677 9 9	
	Barchi	221	.	..	221	....	....	
	Singatgeri	83	..	..	83	....	133 8 0	
	Bomanhalli	200	..	..	200	....	....	
Central Division of Kánara.	Devarbail Plantation	15	6	..	21	14 0 0	20 3 0	
	Arbail	5	..	..	5	....	....	
Southern Division of Kánara.	Kasercode.	293	..	..	293	....	220 1 6	
Belgaum.	Kalasgadé	13	..	..	13	....	....	
	Langanmat	16	..	..	16	....	....	
	Deshnur	150	..	..	150	4 0 0	....	
Bijápur.	Anantpur	90-5	..	..	90-5	....	12 0 0	
	Mamdápur	168	6	..	174	....	48 0 0	
	Shivpur	12	..	..	12	....	....	
Dhárwár	Kelgeri Teak Plantation	..	21	..	21	105 0 0	4 2 0	
	Devikop	..	29	..	29	....	23 4 0	
	Kalkundi	..	125	..	125	....	1,046 3 0	
Kolába	Warsoli	10	..	..	10	37 8 0	....	
	Ráundharni	50	..	..	50	....	....	
	Rájwádi	12	..	..	12	....	....	
	Total, Regular Plantations	2,083-5	192	..	2,275-5	993 6 6	3,085 0 6	
	Cultural Operations.							
Central Division of Kánara.	Sahasarawali	12	..	..	12	....	....	
	Yellápur	26	..	..	26	....	66 15 10	
	Harwáda	1	..	..	1	12 0 0	....	
	Baleguli	....	8	..	8	....	68 6 0	
Southern Division of Kánara.	Banawasi	27	..	..	27	....	....	
	Anegundi	7	..	..	7	....	....	
	Kalkatti	2	..	..	2	....	....	
Belgaum	Three kumri villages in Belgaum.	21	..	..	21	....	....	
	Seventeen ditto, Khánápur.	90	..	90	..	....	....	
	Nagargali	0-10	....	....	0-10	....	4 1 0	
	Sowing seed in Konnur Jungle.	....	40	....	40	....	60 10 0	
Dhárwár	Kambarganvi	..	0-20	....	0-20	....	64 14 0	Some of the cultural operations shown against this division in last year's statement have been entered under 'Regular Plantations' and the rest abandoned.
	Hosur	..	7	..	7	....	13 4 0	
	Karkikop	..	1	..	1	....	1 6 0	
	Dhundshi	....	80	..	80	....	73 14 0	
	Allipur	..	16	..	16	....	52 4 0	
	Babapur	..	80	..	80	....	17 0 3	
	Chennikatti	..	10	..	10	....	12 12 6	
	Basapur	..	10	..	10	....	8 4 0	
	Harikatti	..	2	....	2	....	0 12 0	
	Banihatti	..	42	....	42	....	118 0 0	
Bijápur	Mamdápur	216	..	..	216	....	....	
	Kaládgi	195	..	..	195	....	....	
	Jacknur	9	.	..	9	....	....	
	Khánápur	0-20	..	..	0-20	....	....	
	Nágrál	0-20	..	..	0-20	....	....	
Kolába	Alibág	5		5*	..	....	....	* Abandoned Plants that had grown there having been transferred to 'Regular Plantations.'
	Sattad	81	....	....	81	....	....	
Ratnágiri	Dápoli	119	41	42	118	....	....	† Disforested.
	Khéd	17	..	..	17	....	....	
	Chiplún	73	..	..	73	....	....	
	Sangameshwar	145	16	39†	122	....	....	
	Málvan	30	..	..	30	....	....	
	Total, Cultural Operations	‡1,077-10	353-20	176	1,254-30	12 0 0	557 7 7	‡ For difference between these figures and those shown in column "Area on 31st March 1889" in last year's statement, see remark against Dhárwár above
	Grand Total	3,160-15	545-20	176	3,529-35	1,010 6 6	3,642 8 1	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No 54.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outturn (in Cubic feet, solid) of Timber and Fuel during the year 1889-90, and Agency of Exploitation.

Division.	TIMBER IN THE ROUGH LOGS.					TIMBER IN THE ROUGH POLES.					SAWN OR SQUARED TIMBER.					MISCELLANEOUS.					FUEL.					TOTAL.
	Government.	Purchaser.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Outturn.
	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.		C ft.	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.	There are no right-holders except in regard to grazing and *rab*, the quantity and value of which cannot be assessed.	C. ft.	C. ft.
Northern Division of Kánara	62,147	37,490	11,076	...	100,713	45,629	431	1,600	...	47,660	111,325	11,125	9,101	...	131,551	14,811	4,504	...	...	19,315	24,586	364,710	969		390,265	639,504
Central Division of Kánara	137,466	47,969	29,363	...	214,798	33,099	1,486	315	...	34,900	2,176	...	...	...	2,176	3,549	117	...	...	3,666	...	617,899	4,485		622,384	877,924
Southern Division of Kánara	...	97,871	20,099	...	117,970	...	97	...	...	97	27,765	...	...	...	27,765	Sandalwood Kandies 40 2 10 and 535 tolás oil.	...	...	...	40 2 10 and 535 tolás oil.	12,600	133,336	...		145,936	291,768 Kandies 40 2 10 and 535 tolás oil.
Belgaum	...	13,951	740	...	14,691	30,963	2,181	...	...	33,144	9,584	...	...	...	9,584	5,325	173	...	...	5,498	2,272,073	303,016	...		2,575,089	2,633,006
Dhárwár	...	...	...	...	...	34,760	1,800	70	...	36,630	...	...	...	...	...	.....	51	...	...	51	216	233,437	36		233,689	270,370
Bijápur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	51,643	...	...	51,643	...	254,151	...		254,151	305,794
Kolába	...	...	...	...	...	37,500	682,525	4,742	...	724,767	...	...	...	...	...	...	...	...	...	.....	...	66,232	...		66,232	790,999
Ratnágiri	...	...	...	...	...	99,900	2,308	206	...	102,914	...	...	...	...	...	.....	...	...	...	.....	1,080	...	...		1,080	103,994
Total ...	189,613	197,281	61,278	...	448,172	281,851	691,328	6,933	...	980,112	150,850	11,125	9,101	...	171,076	23,685 Kandies 40 2 10 and 535 tolás oil.	56,488	...	...	80,173 Kandies 40 2 10 and 535 tolás oil.	2,310,555	1,972,781	5,490		4,288,826	5,968,359 Kandies 40 2 10 and 535 tolás oil.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 55.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Northern Division of Kánara.	Bamboos	2	0 11 0	3,540,468	38,958 15 0	9,537	41 0 0	...	.....	3,550,007	39,000 10 0
	Do. fees from Medárs ...	.....	.....	...	17 8 0	...	.....	...	.....	...	17 8 0
	Charcoal ... ... C. ft.	.....	.....	794	22 15 0	...	.....	...	.....	794	22 15 0
	Grazing fees	.....	.....	...	6,491 11 8	...	.....	...	.....	.....	6,491 11 8
	Honey	.....	.....	...	747 0 0	...	.....	...	.....	.....	747 0 0
	Myrabollams ... Khandis.	2,073	18,990 1 5	...	.....	...	.....	...	.....	2,073	18,990 1 5
	Stones ... ... C.ft.	.....	.....	11,000	17 3 0	...	.....	...	.....	11,000	17 3 0
	Earth... ... ... ,,	.....	.....	1,250	0 12 6	...	.....	...	.....	1,250	0 12 6
	Pepper	.....	.....	...	16 0 0	...	.....	...	.....	.....	16 0 0
	Shigekái	.....	.....	...	961 0 0	...	.....	...	.....	.....	961 0 0
	Cinnamon bark	.....	.....	...	155 0 0	...	.....	...	.....	.....	155 0 0
	Tapping fees on Baini trees ...	.....	.....	854	53 6 0	...	.....	...	.....	854	53 6 0
	Kájra seeds...	.....	.....	...	11 12 0	...	.....	...	.....	.....	11 12 0
	Shembe bark	.....	.....	...	31 4 0	...	.....	...	.....	.....	31 4 0
	Wild Turmeric	.....	.....	...	5 8 0	...	.....	...	.....	.....	5 8 0
	Fruits	.....	.....	...	3 9 0	...	.....	...	.....	.....	3 9 0
	Cane ... ... Head-loads.	.....	.....	78	19 10 0	...	.....	...	.....	78	19 10 0
	Total ...	.....	18,990 12 5	...	47,513 2 2	...	41 0 0	...	.....	.....	66,544 14 7
Central Division of Kánara.	Bamboos	150	12 4 0	390,024	7,830 11 4	2,730	24 2 10	...	.....	392,904	7,867 2 2
	Sibs	.....	.....	708,275	6,408 6 0	10,950	27 6 0	...	.....	719,225	6,435 12 0
	Reeds	.....	.....	3,950	4 15 0	...	.....	...	.....	3,950	4 15 0
	Bamboos on contract	.....	.....	...	76 8 0	...	.....	...	.....	.....	76 8 0
	End pieces of Bamboos	.....	.....	2,000	5 0 0	...	.....	...	.....	2,000	5 0 0
	Grazing-fees	.....	.....	...	6,680 6 2	...	.....	...	.....	.....	6,680 6 2
	Earth... ... ... C. ft.	.....	.....	1,008	8 8 0	...	.....	...	.....	1,008	3 8 0
	Canes... ... ... Head-loads.	8	0 5 0	131	37 12 0	3	0 12 0	...	.....	137	38 13 0
	Honey	.....	.....	...	1,617 0 0	...	.....	...	.....	.....	1,617 0 0
	Rámfal, Rámpatri...	.....	.....	...	2,497 8 0	...	.....	...	.....	.....	2,497 8 0
	Pepper	.....	.....	...	398 5 4	...	.....	...	.....	.....	398 5 4
	Cinnamon	.....	.....	...	463 5 4	...	.....	...	.....	.....	463 5 4
	Kaju seeds	.....	.....	...	12 0 0	...	.....	...	.....	.....	12 0 0
	Nux Vomica	.....	.....	...	12 0 0	...	.....	...	.....	.....	12 0 0
	Cocoanuts	.....	.....	...	0 12 0	...	.....	...	.....	.....	0 12 0
	Grass... ... ... Bundles.	15,475	55 9 10	5,584	3 15 0	...	.....	...	.....	21,059	59 8 10
	Grass...	.....	.....	...	14 0 0	...	.....	...	.....	.....	14 0 0
	Myrabollams ... Khandis.	409 16 14	4,168 13 3	...	.....	...	.....	...	.....	409 16 14	4,168 13 3
	Shigekái ... ... ,,	3 9 18	88 5 1	...	.....	...	.....	...	.....	3 9 18	88 5 1
	Total ...	.....	4,325 5 2	...	26,066 0 2	...	52 4 10	...	.....	.....	30,443 10 2
Southern Division of Kánara.	Myrabollams ... Khandis...	2,260 10 11	25,574 6 9	...	.....	...	.....	...	.....	2,260 10 11	25,574 6 9
	Shigekái ... ... ,,	38 16 4	776 15 10	...	.....	...	.....	...	.....	38 16 4	776 15 10
	Bamboos (large)	.....	.....	70,669	812 3 6	100	1 0 0	...	.....	70,769	813 3 6
	Do. (small)	.....	.....	97,080	276 0 0	750	1 14 0	...	.....	98,280	277 14 0
	Grazing-fees	.....	.....	...	9,319 6 6	...	.....	...	.....	.....	9,319 6 6
	Honey	.....	.....	...	1,912 2 0	...	.....	...	.....	.....	1,912 2 0
	Palm trees... ... C. feet.	.....	.....	3,700	146 8 0	...	.....	...	.....	3,700	146 8 0
	Rámpatri and Cinnamon ...	.....	.....	...	1,086 0 0	...	.....	...	.....	.....	1,086 0 0
	Cocoanuts	.....	.....	...	3 10 6	...	.....	...	.....	.....	3 10 6
	Thorns ... ...Stakes C. ft.	.....	.....	522	5 0 0	...	.....	...	.....	522	5 0 0
	Canes ... ... Loads.	.....	.....	426	157 0 0	3	0 12 0	...	.....	429	157 12 0
	Stones ... ... C. ft.	.....	.....	15,516	53 14 0	...	.....	...	.....	15,516	53 14 0
	Tapping fees on Baini trees ...	.....	.....	2,805	175 5 0	...	.....	...	.....	2,805	175 5 0
	Shige Bark ... ... Mds.	.....	.....	305	76 4 0	...	.....	...	.....	305	76 4 0
	Wild Pepper	.....	.....	...	37 10 0	...	.....	...	.....	.....	37 10 0
	Aleksista	.....	.....	...	15 9 6	...	.....	...	.....	.....	15 9 6
	Catechu	.....	.....	...	4,905 0 0	...	.....	...	.....	.....	4,905 0 0
	Hadchari leaves ... Loads.	.....	.....	59	7 6 0	...	.....	...	.....	59	7 6 0
	Tali bark ... ... ,,	.....	.....	72	20 7 6	...	.....	...	.....	72	20 7 6
	Total ...	.....	26,351 6 7	...	19,009 6 6	...	3 10 0	...	.....	.....	46,364 7 1
Belgaum ...	Myrabollams ... Khandis.	6,330 8 26	56,595 10 1	...	.....	...	.....	...	.....	6,330 8 26	56,595 10 1
	Canes ... Head-loads.	.....	.....	280	17 8 0	...	.....	...	.....	280	17 8 0
	Bamboos	.....	.....	52,090	1,580 11 3	50	1 8 0	...	.....	52,740	1,582 3 3
	Medár do.	.....	.....	55,688	1,113 12 2	...	.....	...	.....	55,688	1,113 12 2
	Shibs	.....	.....	449,775	4,280 12 0	...	.....	...	.....	449,775	4,280 12 0
	Chivas	.....	.....	632,870	876 4 0	...	.....	...	.....	632,870	876 4 0
	Grazing fees	.....	.....	...	18,480 6 11	...	.....	...	.....	.....	18,480 6 11
	Grass from kurans	.....	.....	...	5,204 0 0	...	.....	...	.....	.....	5,204 0 0
	Do. ...Head-loads.	.....	.....	538	8 11 6	...	.....	...	.....	538	8 11 6
	Toddy trees ... ... C. ft.	.....	.....	400	8 2 0	...	.....	...	.....	400	8 2 0
	Tapping fees on do.	.....	.....	363	22 11 0	...	.....	...	.....	363	22 11 0
	Stones ... ... C. ft.	.....	.....	402,405	1,375 3 3	...	.....	...	.....	402,405	1,375 3 3
	Earth ... ... ,,	.....	.....	2,963	15 10 8	...	.....	...	.....	2,963	15 10 8
	Sand... ... ... ,,	.....	.....	36	0 2 0	...	.....	...	.....	36	0 2 0
	Thorns ... ... ,,	.....	.....	2,824	67 2 6	...	.....	...	.....	2,824	67 2 6
	Tarwad bark ... Head-loads.	.....	.....	469	43 15 6	...	.....	...	.....	469	43 15 6
	Bandurgi leaves ... ,,	.....	.....	509	32 8 6	...	.....	...	.....	509	32 8 6
	Do. Bullock-loads.	.....	.....	4	4 0 0	...	.....	...	.....	4	4 0 0
	Palm leaves... ... Cart-loads.	.....	.....	1	0 8 0	...	.....	...	.....	1	0 8 0
	Shigekái ... ... Khandis.	.....	.....	265	994 0 0	...	.....	...	.....	265	994 0 0
	Honey ... ... Maunds.	.....	.....	267	682 8 0	...	.....	...	.....	267	682 8 0
	Gum ... ... ,,	.....	.....	552	961 8 0	...	.....	...	.....	552	961 8 0
	Tamarind ... ... ,,	.....	.....	55	13 14 0	...	.....	...	.....	55	13 14 0
	Cinnamon ... ... Khandis.	.....	.....	90	137 0 0	...	.....	...	.....	90	137 0 0
	Fruit farm	.....	.....	...	1 4 0	...	.....	...	.....	.....	1 4 0
	Total ...	.....	56,595 10 1	...	35,322 3 3	...	1 8 0	...	.....	.....	92,519 5 4

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Dhárwár ...	Myrabollams ... Baskets.	52½	56 0 0	...	17 0 0	...	.....	...	.....	.....	73 0 0
	Grass ... ... Pullies.	.....	.....	40,637	67 2 6	...	.....	...	.....	40,637	67 2 6
	Do. ... ... Cart-loads.	.....	.....	1	0 2 0	...	.....	...	.....	1	0 2 0
	Do. in Kurans sold by auction.	.....	.....	...	410 10 0	...	.....	...	.....	.....	410 10 0
	Do. for thatching Bundles.	.....	.....	1,787	55 2 3	...	.....	...	.....	1,787	55 2 3
	Stones ... ... C. ft.	.....	.....	4,453	168 8 0	...	.....	...	.....	4,453	168 8 0
	Do. sold by auction	.....	.....	...	29 15 0	...	.....	...	.....	.....	29 15 0
	Plantains ... ... ,,	.....	.....	...	3 9 3	...	.....	...	.....	.....	3 9 3
	Earth ... ... C. ft.	.....	.....	202	8 7 0	...	.....	...	.....	202	8 7 0
	Thorns ... ... ,,	.....	.....	3,588	190 9 0	...	.....	...	.....	3,588	190 9 0
	Manure	.....	.....	...	1 12 0	...	.....	...	.....	.....	1 12 0
	Royalty on branches of toddy trees ...Loads.	.....	.....	1,122	39 4 6	...	.....	...	.....	1,122	39 4 6
	Do. on tapping toddy trees.	.....	.....	1,310	85 2 0	...	.....	...	.....	1,310	85 2 0
	Tarwad bark	.....	.....	...	2,673 0 0	...	.....	...	.....	.....	2,673 0 0
	Bábul pods	.....	.....	...	116 0 0	...	.....	...	.....	.....	116 0 0
	Bahadurgi fruits	.....	.....	...	10 0 0	...	.....	...	.....	.....	10 0 0
	Mango fruits	.....	.....	...	32 14 0	...	.....	...	.....	.....	32 14 0
	Tamarind fruits ... ,, ...	.....	.....	...	3 10 9	...	.....	...	.....	.....	3 10 9
	Karibantanaballi ... Loads.	.....	.....	2	0 2 0	...	.....	...	.....	2	0 2 0
	Marking nuts	.....	.....	...	13 5 0	...	.....	...	.....	.....	13 5 0
	Honey	.....	.....	...	125 4 0	...	.....	...	.....	.....	125 4 0
	Green leaves ... ...Loads.	.....	.....	3	0 3 0	...	.....	...	.....	3	0 3 0
	Total ...	.....	56 0 0	...	4,051 10 3	...	.....	...	.....	.....	4,107 10 3
Bijápur ...	Stones ... ... C. ft.	.....	.....	117,111	1,690 14 10	...	.....	...	.....	117,111	1,690 14 10
	Earth ... ... ,,	.....	.....	20,049	111 14 3	...	.....	...	.....	20,049	111 14 3
	Thorns ... ... ,,	.....	.....	182	8 1 0	...	.....	...	.....	182	8 1 0
	Leaves ... Bullock-loads.	.....	.....	3	0 6 0	...	.....	...	.....	3	0 6 0
	Do. ... ... Head-loads.	.....	.....	1,151	71 15 0	...	.....	...	.....	1,151	71 15 0
	Fruit, Honey, Gum, &c.	.....	.....	...	1,171 8 0	...	.....	...	.....	.....	1,171 8 0
	Total ...	.....	.....	...	3,054 11 1	...	.....	...	.....	.....	3,054 11 1
Kolába ...	Harda, Shigekái, Apta, Temburni leaves	.....	.....	...	660 0 0	...	.....	...	.....	.....	660 0 0
Ratnágiri ...	Myrabollams	.....	.....	...	58 1 6	...	.....	...	.....	.....	58 1 6

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôt or sold locally during the year 1889-90.

Particulars.	No. or Quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or Quantity.	TOTAL OF EACH HEAD. Cubic feet.
TIMBER.				
BALANCE AT COMMENCEMENT OF THE YEAR.				
Northern Division of Kánara.				
Teakwood	4,231	119,635		
Do. round pieces	4,932	9,864		
Do. sleepers	3,021	4,500		
Do. slabs	14,716	4,460		
Blackwood	31	633		
Junglewood	416	8,641		
			27,347	147,738
Central Division of Kánara.				
Teakwood	...	21,666		
Blackwood	...	15		
Junglewood	...	11,576		
Miscellaneous pieces	...	34		
Teak round pieces	5,679	22,499		
Do. sleepers	2,283	3,881		
Do. slabs	7,946	5,959		
Do. poles	412	2,080		
Do. logs	1,537	39,286		
Round teak board	1	...		
Blackwood logs	103	1,837		
Junglewood do.	1,338	24,903		
Sitting boards	72	...		
			19,371	133,676
Southern Division of Kánara.				
Teak	411	7,965		
Blackwood	28	430		
Junglewood	800	13,817		
Teak poles	175	993		
Junglewood poles	17	54		
Sleepers	604	604		
Slabs	48,888	12,222		
Round teak sleeper pieces	310	465		
			51,233	36,550
Belgaum Division.				
Teak trees	15	225		
Do. poles	1	4		
Do. slabs	35	10		
Junglewood poles	1,813	533		
			1,864	772
Dhárwár Division.				
Teak rafters	4,979	29,350		
Matti do.	410	1,500		
Blackwood rafters	2	10		
Jiráiti pieces	16,263	13,000		
Miscellaneous rafters	142	500		
			21,796	35,360
Kolába Division.				
Teak poles and pieces	1,666	7,500		
Miscellaneous	211			
			1,877	7,500
Ratnágiri Division.				
Teak poles of different classes	1,771	10,000		
Miscellaneous pieces	690			
			2,461	10,000
Total Balance	...	...	125,449	371,596
RECEIVED FROM THE FORESTS IN DEPÔTS.				
Teak logs	12,610	241,813		
Do. poles	25,772	86,595		
Do. pieces	2,628	3,459		
Do. planks	24	38		
Do. poles of different classes	27,193	187,400		
Miscellaneous	8,604			
Teak round pieces for sleepers	4,097	16,229		
Teak rafters	6,022	23,000		
Branches from teak poles	477	729		
Blackwood logs	850	8,460		
Do. poles	91	383		
Do. pieces	70	184		
Junglewood logs	4,088	71,771		
Do. poles	10,585	11,284		
Do. pieces	450	1,845		
Adzed rectangular teak sleepers	9	18		
Matti rafters	481	1,500		
Blackwood rafters	17	60		
Jiráiti pieces	17,500	13,549		
			121,563	618,317

Particulars.	No. or Quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or Quantity.	TOTAL OF EACH HEAD. Cubic feet.
REMOVED BY PURCHASERS FROM DEPÔTS.				
Teak logs	13,292	267,196		
Do. round pieces	9,071	31,273		
Do. sleepers	3,660	5,854		
Do. slabs	17,079	7,637		
Do. pieces	2,223	2,477		
Do. poles	23,338	74,541		
Do. rafters	10,081	36,000		
Do. poles of different classes	27,596	139,902		
Miscellaneous poles	8,835			
Blackwood logs	454	6,318		
Do. poles	40	189		
Do. pieces	20	50		
Junglewood logs	3,752	66,344		
Do. poles	11,761	11,264		
Do. pieces	226	923		
Matti rafters	2,474	6,300		
Blackwood rafters	9	35		
Jiráiti pieces	21,935	16,895		
Miscellaneous pieces	...	1		
Sawn timber	...	17,088		
			155,851	690,377
SOLD LOCALLY.				
Teak	...	49		
Do. pieces	532	692		
Do. poles	338	509		
Blackwood	...	3		
Do. pieces	47	137		
Junglewood	...	461		
Do. pieces	453	935		
Casuarina poles	2,129	5,364		
Do. thin branches ... Stacks	1,169	12,590		
Miscellaneous pieces	8	...		
			4,676	20,790
CONVERTED IN DEPÔTS.				
Teak logs	66	1,478		
Do. slabs	15	8		
Blackwood logs	2	38		
Junglewood do.	108	2,044		
Sawn timber	...	1,332		
			191	4,895
USED BY THE DEPARTMENT.				
Teak logs	6	169		
Do. round pieces for sleepers	90	180		
Do. slabs	400	100		
Do. sleepers	3	5		
Do. rafters	1	5		
Sawn timber	...	94		
			500	553
TRANSFERRED TO OTHER SALE DEPÔTS.				
Teak logs	71	1,567		
Blackwood logs	2	38		
Junglewood do.	113	2,201		
			186	3,806
BALANCE AT CLOSE OF THE YEAR.				
Northern Division of Kánara.				
Teak logs	2,836	83,657		
Blackwood logs	59	1,195		
Junglewood do.	236	4,858		
Teak round pieces for sleepers	2,468	4,936		
Do. sleepers	1,447	2,170		
Do. slabs	10,959	3,491		
Do. pieces	41	85		
Do. planks	24	38		
			18,000	100,430
Central Division of Kánara.				
Teak round pieces	3,079	12,193		
Do. sleepers	601	1,021		
Do. logs	2,131	47,243		
Blackwood logs	469	3,273		
Junglewood do.	2,017	35,290		
Adzed rectangular teak sleepers	9	18		
Teak slabs	20,418	15,313		
Sitting boards	72	...		
Round teak board	1	...		
Teak poles	2,972	15,063		
Junglewood poles	154	607		
Blackwood do.	30	146		
Jiráiti pieces	2,476	2,144		
Miscellaneous pieces	...	38		
Sawn timber	...	16,919		
			34,429	149,363

FORM No. 56—*continued.*

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Received from the Forests and sold locally.				
Teak	..	49		
Do. pieces	532	692		
Do. poles	338	509		
Blackwood	..	8		
Do. pieces	47	137		
Junglewood	..	461		
Do. pieces	453	985		
Casuarina poles	2,129	5,364		
Do. thin branches Stacks.	1,169	12,590		
Miscellaneous pieces	8	..		
			4,676	20,790
Received by conversion in Depôts.				
Teak sleepers	407	669		
Do. slabs	19,142	14,357		
Sawn timber		2,176		
			19,549	17,202
Received by transfer from Sale Depôts.				
Teak logs	71	1,567		
Blackwood logs	2	38		
Junglewood do.	113	2,201		
			186	3,806
Total	..	..	271,428	1,031,711
Balance at commencement of the year.				
Northern Division of Kánara.				
Firewood Tons.	388	22,348		
Charcoal Muras.	23	50		
			..	22,398
Central Division of Kánara.				
Firewood Stacks.	358	6,444	..	6,444
Belgaum Division.				
Firewood Stacks.	7,036	221,700		221,700
Dhárwár Division.				
Firewood Stacks.	4,817	86,706	..	86,706
Total Balance	..	..	..	337,248
Received during the year.				
Firewood Tons.	400	23,040		
Do.	..	1,080		
Do. Stacks.	24,592	599,767		
Do. Cart-loads.	2½	45		
Lighting wood Rg. feet.	3,640	2,184		
Fuel "	3,25,890	1,876,051		
Ulkás	625	216		
			..	2,502,383
Received from the Forests and sold locally.				
Firewood		28		
Do. Head-loads.	644	966		
Casuarina "	930	1,395		
			..	2,389
Total	..		..	2,842,020
Balance at commencement of the year.				
Belgaum Division.				
Bamboos	1,500	..	1,500	..
Received from the Forests and sold locally.				
Bamboos	150	..	150	..
Total	..	..	1,650	..

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
TIMBER—*continued.*				
Southern Division of Kánara.				
Teak	457	8,892		
Blackwood	28	441		
Junglewood	512	10,245		
Teak poles	65	293		
Do. sleepers	604	604		
Do. slabs	41,856	10,464		
Do. round pieces for sleepers	310	465		
			43,832	31,404
Belgaum Division.				
Teak logs	1	14		
Teak pieces	359	897		
Do. poles from branches	477	729		
Blackwood poles	21	48		
Do. pieces	50	134		
Junglewood logs	27	351		
Do. pieces	224	922		
			1,159	3,095
Dhárwár Division.				
Teak Rafters.	2,315	7,000		
Matti do.	145	450		
Sissum do.	10	40		
Jiráiti pieces	6,370	4,600		
			8,840	12,090
Kolába Division.				
Teak pieces of different classes	479	2,500		
Miscellaneous	142		621	2,500
Ratnágiri Division.				
Teak poles of different classes	2,555	12,408		
Miscellaneous	528		3,083	12,408
Total Balance	..	..	110,024	311,290
Total	..	..	271,428	1,031,711
FIREWOOD.				
Removed by Purchasers.				
Firewood Stacks.	23,536	560,692		
Do. Tons.	386	22,233		
Fuel Rg. ft.	3,025,890	1,876,051		
Lighting wood "	3,640	2,184		
Firewood C. ft.		1,080		
Do. Cart-loads.	2½	45		
Charcoal Muras	23	50		
Ulkás	625	216		
				2,162,551
Sold locally.				
Firewood		28		
Do. Head-loads.	644	966		
Do. Casuarina "	930	1,395		
				2,389
Lost or written off as useless.				
Firewood Stacks.	565	17,670		
Do. Tons.	2	115		
				17,785
Balance at close of the year.				
Northern Division of Kánara.				
Firewood Tons.	400	23,040	400	23,040
Central Division of Kánara.				
Firewood Stacks.	38	684	38	684
Southern Division of Kánara.				
Firewood Stacks.	280	5,040	280	5,040
Belgaum Division.				
Firewood Stacks.	8,241	255,957	8,241	255,957
Dhárwár Division.				
Firewood Stacks.	4,143	74,574	4,143	74,574
Total Balance	..	..		359,995
Total	..	..	..	2,842,020
BAMBOOS.				
Removed by Purchasers.				
Bamboos	1,500	..	1,500	..
Sold Locally.				
Bamboos	150	..	150	..
Total	..	..	1,650	..

FORM No. 56—*concluded.*

Particulars.	No. or Quantity.		Total of each Head. No. or Quantity.		Particulars.	No. or Quantity.		Total of each Head. No. or Quantity.	
					SANDALWOOD.				
Balance at commencement of the year.					Removed by Purchasers.				
Northern Division of Kánara.					Trees	6			
Trees	153	..	153	..	Sandalwood .. .. .. Khandis.	..	98-3-12-36		
Central Division of Kánara.					Billets	1,012	18 6 6		
Trees .. .. Khandis.	..	4 16 14	..	4 16 14	Roots	359	..		
Southern Division of Kánara.					Sawdust	..	3 1 3		
Trees .. .. Khandis.	..	36 13 25	..	36 13 25	Bark and branches .. .. C. ft.	..	40		
Dhárwár Division.					Chips .. .. Khandis.	..	2 5 0		
Roots	440	..			Do. .. .. Cart-loads.	5½	..		
Chips and sawdust	..	3 1 3	440	3 1 3	Oil .. .. Tolas.	24	..	..	Khandis 121-15-20-36 & 40 C. ft.
Total Balance ..	..	..	..	44 11 14	Sold locally.				
Received during the year.					Sandalwood pieces	47	..	47	..
Trees	66	..			Converted in Depôts.				
Sandalwood .. .. Khandis.	..	58 0 13			Trees	213	..		
Chips and sawdust	..	2 5 0			Sandalwood .. .. .. Khandis.	..	1 0 0	213	1 0 0
Do. .. .. Cart-loads	8½	..			Balance at close of the year.				
Billets	1,012	18 6 5			*Northern Division of Kánara.*				
Roots	259	..	..	78-11 18	Billets	994	..	994	..
Received from the Forests and sold locally.					*Southern Division of Kánara.*				
Sandalwood pieces	47	..	47	..	Sandalwood .. .. .. Khandis.	..	0-7-11-4		
Received by conversion in Depôts.					Do. oil .. .. Tolas.	511	..	511	0-7-11-4
Billets	994	..			*Dhárwár Division.*				
Bark and branches .. .. C. ft.	..	40			Roots	340	..		
Oil .. .. Tolas.	535	..	..	40	Sawdust .. .. .. Cart-loads.	3	..		
Total ..	..	..	..	Khandis. 123-3-4 and 40 C. ft.	Chips .. .. ,,	2	..	342½	..
					Total Balance ..	..	..	..	0-7-11-4
					Total ..	..	..	..	Khandis 123-3-4 & 40 C. ft.
					GRASS AND OTHER MINOR PRODUCE.				
Balance at commencement of the year.					Removed by Purchasers.				
Northern Division of Kánara.					Myrabollams .. .. Khandis.	..	11,102-1-15		
Myrabollams .. .. .. Baskets.	12,319	..	12,319	..	Do. .. .. Baskets.	12,371½	..		
Central Division of Kánara.					Shigekái .. .. .. Khandis.	..	41 17 22		
Myrabollams .. .. .. Khandis.	..	93 2 15			Grass .. .. .. Bundles.	15,475	..	..	11,143-19-9
Shigekái .. .. .. do.	..	3 8 14			Sold locally.				
Grass .. .. Bundles.	147,444	..	147,444	96 11 1	Canes .. .. .. Head-loads.	3	..	3	..
Southern Division of Kánara.					Used by the Department.				
Myrabollams .. .. .. Khandis.	..	726 18 16	..	726 18 16	Grass .. .. Bundles.	35,201	..	35,201	..
Belgaum Division.					Lost or written off as useless.				
Myrabollams .. .. .. Khandis.	..	45 19 21	..	45 19 21	Allowance on account of dust on Myrabollams .. .. .. Khandis.	..	0 11 3	..	0 11 3
Dhárwár Division.					Balance at close of the year.				
Myrabollams .. .. .. Baskets.	41½	..	41½	..	*Northern Division of Kánara.*				
Total Balance ..	..	..	..	869 9 10	Myrabollams .. .. .. Baskets.	116½	..		
Received from the Forests in Depôts.					Do. .. .. Khandis.	..	274 0 0	116½	274 0 0
Myrabollams .. .. .. Khandis.	..	10,961-15-19			*Central Division of Kánara.*				
Do. .. .. Baskets.	1,217½	..			Shigekái .. .. .. Khandis.	..	1 15 7		
Shigekái .. .. Khandis.	..	40 12 15			Grass .. .. Bundles.	182,168	..	182,168	1 15 7
Grass .. .. Bundles.	85,400	..	..	11,002-8-6	*Southern Division of Kánara.*				
Received from the Forests and sold locally.					Myrabollams .. .. .. Khandis.	..	424 12 25		
Canes .. .. .. Head-loads	3	..	3	..	Shigekái .. .. ,,	..	0 8 0	..	425 0 25
					Belgaum Division.				
					Myrabollams .. .. .. Khandis.	..	26 11 0	..	26 11 0
					Total Balance ..	..	..	..	727 7 4
Total ..	..		..	11,871-17-16	Total ..	..	..	..	11,871-17-16

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1889-90.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
TIMBER.									
Northern Division of Kánara.									
Teakwood	4,231	119,635	1,76,476 0 0	2,836	83,657	1,20,518 0 0	.....	55,958 0 0	
Blackwood	31	638	756 0 0	59	1,195	1,349 0 0	593 0 0	.....	
Junglewood	416	8,641	3,067 0 0	226	4,858	5,052 0 0	.....	3,615 0 0	
Teak round pieces	4,932	9,864	9,864 0 0	2,468	4,936	3,085 0 0	.....	6,779 0 0	
Do. sleepers	3,021	4,500	6,042 0 0	1,447	2,170	2,200 0 0	.....	3,842 0 0	
Do. slabs	14,716	4,460	1,470 0 0	10,959	3,491	1,090 0 0	.....	380 0 0	
Do. pieces	...	...	.....	41	85	28 0 0	28 0 0	.....	
Do. planks	...	...	.....	24	88	12 0 0	12 0 0	.....	
Total	...	...	2,03,275 0 0	.....	...	1,33,334 0 0	633 0 0	70,574 0 0	
Central Division of Kánara.									
Logs	2,978	65,976	77,852 0 0	4,617	85,906	84,220 0 0	6,368 0 0	.....	
Teak round pieces	5,679	22,489	28,395 0 0	3,079	12,103	6,214 0 0	.....	22,181 0 0	
Do. sleepers	2,283	3,831	4,566 0 0	610	1,039	1,432 0 0	.....	3,134 0 0	
Do. slabs	7,916	5,959	318 0 0	20,418	15,313	1,191 0 0	873 0 0	.....	
Do. poles	412	2,080	765 0 0	2,972	15,063	5,431 0 0	4,666 0 0	.....	
Sitting boards	72	...	10 0 0	72	...	10 0 0	.....	.....	
Miscellaneous scantlings	...	33,291	66,582 0 0	.....	16,952	8,476 0 0	.....	58,106 0 0	
Round teak board	1	...	0 5 0	1	...	0 5 0	.....	.....	
Junglewood poles	...	...	.....	154	607	72 0 0	72 0 0	.....	
Blackwood poles	...	...	.....	30	146	23 0 0	23 0 0	.....	
Jirálti wood pieces	...	...	.....	2,476	2,144	619 0 0	619 0 0	.....	
Total	...	...	1,78,488 5 0	.....	...	1,07,688 5 0	12,621 0 0	83,421 0 0	
Southern Division of Kánara.									
Teakwood	411	7,965	10,833 0 0	457	8,892	12,226 0 0	1,393 0 0	.....	
Blackwood	28	430	400 0 0	28	441	379 0 0	.....	21 0 0	
Junglewood	800	13,817	11,053 0 0	512	10,245	10,245 0 0	.....	808 0 0	
Teak poles	175	993	397 0 0	65	293	128 0 0	.....	269 0 0	
Junglewood poles	17	54	10 0 0	.....	...	.....	.....	10 0 0	
Teak round pieces	310	465	.....	310	465	116 0 0	116 0 0	.....	
Do. sleepers	604	604	1,208 0 0	604	604	1,208 0 0	.....	.....	
Do. slabs	48,888	12,222	1,956 0 0	41,856	10,464	1,674 0 0	.....	282 0 0	
Total	...	...	25,857 0 0	.....	...	25,976 0 0	1,509 0 0	1,390 0 0	
Belgaum Division.									
Teak trees	15	225	135 0 0	.....	...	.....	.....	135 0 0	
Do. slabs	35	...	5 4 0	.....	...	.....	.....	5 4 0	
Do. poles	1	4	4 0 0	.....	...	.....	.....	4 0 0	
Junglewood poles	1,313	533	288 7 0	.....	...	.....	.....	288 7 0	
Teak poles from branches	...	...	.....	477	729	276 15 0	276 15 0	.....	
Do. log	...	...	.....	1	14	14 0 0	14 0 0	.....	
Do. pieces	...	...	.....	359	897	389 8 0	389 8 0	.....	
Junglewood logs	...	...	.....	27	351	16 4 0	16 4 0	.....	
Do. pieces	...	...	.....	224	322	191 8 0	191 8 0	.....	
Blackwood poles	...	...	.....	21	48	10 4 0	10 4 0	.....	
Do. pieces	...	...	.....	50	134	26 8 0	26 8 0	.....	
Total	...	...	432 11 0	.....	...	924 15 0	924 15 0	432 11 0	
Dhárwár Division.									
Teak rafters	4,979	20,350		2,315	7,000				
Matti do.	410	1,500	13,000 0 0	145	450	6,000 0 0	.....	7,000 0 0	
Miscellaneous do.	142	500		.....	...				
Blackwood do.	2	10		10	40				
Jiráiti pieces	16,263	13,000	10,000 0 0	6,370	4,600	4,000 0 0	.....	6,000 0 0	
Total	...	...	23,000 0 0	.....	...	10,000 0 0	.....	13,000 0 0	
Koldába Division.									
Teak poles and Miscellaneous pieces.	1,877	7,500	750 0 0	621	2,500	250 0 0	.....	500 0 0	
Ratnágiri Division.									
Teak poles and pieces	2,461	10,000	575 0 0	3,083	12,408	1,000 0 0	425 0 0	.....	
Total, Timber	...	...	4,32,378 0 0	.....	...	2,79,173 4 0	16,112 15 0	1,69,317 11 0	
FIREWOOD.									
Northern Division of Kánara.									
Firewood Tons.	388	22,348	2,440 0 0	400	23,040	2,525 0 0	85 0 0	.....	
Charcoal Maras.	23	50	6 0 0	.....	...	.....	.....	6 0 0	
Total	...	...	2,446 0 0	.....	...	2,525 0 0	85 0 0	6 0 0	
Central Division of Kánara.									
Firewood Stacks.	353	6,444	264 0 0	38	684	28 0 0	.....	236 0 0	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
FIREWOOD—*continued.*									
Southern Division of Kánara.									
Firewood ... ... Stacks.	...	...	.....	280	5,040	210 0 0	210 0 0	.....	
Belgaum Division.									
Firewood ... ... Stacks.	7,036	221,700	7,036 0 0	8,241	255,957	11,743 6 0	4,707 6 0	.....	
Dhárwár Division.									
Firewood ... ... Stacks.	4,817	86,706	4,817 0 0	4,143	74,574	4,143 0 0	.....	674 0 0	
Total, Firewood ...	...	...	14,563 0 0	.....	...	18,649 6 0	5,002 6 0	916 0 0	
BAMBOOS.									
Belgaum Division.									
Bamboos	1,500	...	36 0 0	.....	...	.....	.....	36 0 0	
SANDALWOOD.									
Northern Division of Kánara.									
Trees	153	...	200 0 0	.....	...	.....	.....	200 0 0	
Billets	...	...	.....	994	...	1,800 0 0	1,800 0 0	.....	
Total ...	...	...	200 0 0	.....	...	1,800 0 0	1,800 0 0	200 0 0	
Central Division of Kánara.									
Sandalwood ... ... Khandis.	...	K. m. s. 14 16 14	480 0 0	.....	...	.....	.....	480 0 0	
Southern Division of Kánara.									
Sandalwood ... ... Khandis.	...	36 13 25	2,800 0 0	.....	0 7 11 4	47 0 0	.....	2,753 0 0	
Sandal oil ... ... Tolás.	...	...	.....	511	...	96 0 0	96 0 0	.....	
Total ...	...	...	2,800 0 0	.....	...	143 0 0	96 0 0	2,753 0 0	
Dhárwár Division.									
Roots	440	...	100 0 0	340	...	100 0 0	.....	.....	
Chips and Sawdust ... Khandis.	...	K. m. s. 3 1 3	60 0 0	2½ Cart-loads.	...	35 0 0	.....	25 0 0	
Total ...	...	...	160 0 0	.....	...	135 0 0	.....	25 0 0	
Total, Sandalwood ...	...	...	6,600 0 0	.....	...	2,356 0 0	1,992 0 0	6,236 0 0	
MINOR PRODUCE.									
Northern Division of Kánara.									
Myrabollams ... ... Khandis.	...	73	703 0 0	.....	274	2,740 0 0	2,037 0 0	.....	
Do. ... ... Baskets.	...	...	.....	116½	...	100 0 0	100 0 0	.....	
Total ...	...	...	703 0 0	.....	...	2,840 0 0	2,137 0 0	.....	
Central Division of Kánara.									
Myrabollams ... ... Khandis.	...	K. m. s. 93 2 15	950 0 0	.....	...	.....	.....	950 0 0	
Shigekái ... ... ,,	...	3 8 14	60 0 0	.....	K. m. s. 1 15 7	20 0 0	.....	40 0 0	
Grass ... ... Bundles.	147,444	...	530 0 0	182,168	...	598 0 0	68 0 0	.....	
Total ...	...	...	1,540 0 0	.....	...	618 0 0	68 0 0	990 0 0	
Southern Division of Kánara.									
Myrabollams ... ... Khandis.	...	727	7,270 0 0	.....	425	4,465 0 0	.....	2,805 0 0	
Shigekái ... ... ,,	...	...	.....	.....	K. m. s. 0 8 0	10 0 0	10 0 0	.....	
Total ...	...	...	7,270 0 0	.....	...	4,475 0 0	10 0 0	2,805 0 0	
Belgaum Division.									
Myrabollams ... ... Khandis.	...	45 19 21	425 0 0	.....	26 11 0	264 0 0	.....	161 0 0	
Dhárwár Division.									
Myrabollams ... ... Baskets.	41½	...	30 0 0	.....	...	.....	.....	30 0 0	
Total, Minor Produce ...	...	...	19,481 0 0	.....	...	16,130 0 0	4,430 0 0	7,781 0 0	
Grand Total ...	...	...	4,73,058 0 0	.....	...	3,16,308 10 0	27,537 5 0	1,84,286 11 0	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the value of Live and Dead Stock for the year 1889-90.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Direction.							
Office tent, 13 × 13 new ...	1	450	1	450	...	...	
Do. do. old ...	1	450	1	450	...	...	
Tools, plant and office furniture.	...	250	...	279	*a* 29	...	*a* Cost of a teak box for maps.
Total ...	...	1,150	...	1,179	29	...	
Northern Division of Kánara.							
Forest bungalow at Haliyál ...	1	2,700	1	2,700	...	...	
Range forest office at do. ...	1	900	1	900	...	...	
Forest nákás	12	9,815	12	9,815	...	...	
Divisional forest office at Haliyál.	...	...	1	350	350	...	
Forest bungalow at Kadra ...	1	8,100	1	8,100	...	...	
Kodibág depôt-house	1	4,960	1	4,960	...	...	
Hill tent	1	350	1	350	...	...	
Tools, plant and office furniture .	...	2,794	...	2,887	93	...	
Total ...	...	29,619	...	30,062	443	...	
Central Division of Kánara.							
Forest bungalows at Yellápur ...	2	3,050	2	3,050	...	...	
Workshop at do. ...	1	114	1	114	...	...	
Rest-house at Kolikeri	1	908	1	908	...	...	
Náká-houses	11	3,351	14	4,201	850	...	
Old range office at Yellápur ...	1	250	1	250	...	...	
Rest-house at Ramanguli ...	1	150	1	150	...	...	
Tent	1	350	1	350	...	...	
Tools, plant and office furniture ,	...	5,126	...	4,033	...	1,093	
Buffaloes and bullocks	*b* 39	1,393	...	...	...	1,393	*b* 36 were transferred to the Belgaum Division, and 3 died.
Total ...	...	14,692	...	13,056	850	2,486	
Kánara Saw Mills.							
Engines, portable, 12 H-P. ...	2		...	...	...		Sold.
Anvils	2		...	...	...		Do.
Small circular saw benches ..	2		...	...	...		Do.
Crabwinch	2		2	100	...		What they would fetch if now sold.
Sawframe, horizontal, with 16 old saws.	1		1	20	...		Do. do.
Forges, portable...	1		1	25	...		Do. do.
Quern	1	40,716	...	...	...	40,546	Sold.
Hauling machine	1		1	25	...		What it would fetch if now sold.
Lathe	1		...	...	...		Sold.
Rack, circular	1		...	...	...		Do.
Saw-sharpening machines ...	2		...	...	...		Do.
Corrugated roof-shed	1		...	...	...		Do.
Vice	1		...	...	...		Do.
Engine, portable, 12 H-P. ...	1		...	...	...		Do.
Bench, cross-cutting	1	9,958	...	...	...	9,958	Do.
Saw-sharpening machine ...	1		...	...	...		Do.
Vertical saw frame with 12 new and 24 old saws.	1	3,375	...	...	...	3,375	Do.
Engine, portable, 12 H-P. ...	1	3,960	1	*c* 2,000	...	1,960	*c* What it would fetch if now sold.
Benches, small circular saws ...	2	1,249	...	...	...	1,249	Sold.
Anvils	2	52	2	*d* 40	...	12	*d* What they would fetch if now sold.
Intermediate shaft	1	75	...	...	...	75	Sold.
Other stores and furniture ...	...	5,547	...	*e* 140	...	5,407	*e* The rest of the materials have been sold.
Total ...	...	64,932	...	2,350	...	62,582	All the articles shown as sold above fetched Rs. 7,278.

FORM No. 57A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Southern Division Kánara.							
Office Building at Sirsi... ...	1	950	1	1,717	767	...	
Depôt-house at do.	1		1	1,119	..	...	
Forest nákás	*f* 19	6,521	20	5,402	300	...	*f* The number of nákás entered in column "on hand at close of the year" of the last year's statement, was incorrect, but the value (Rs. 6,521), shown therein included the cost of 19 nákás and of the Depôt and Rest-houses, now correctly shewn.
Rest-house at Bilki	1		1	300	...	...	
Office tent	1	350	1	350	...	...	
Tools, plant and office furniture .	...	3,068	...	3,114	46	...	
Total ...	...	10,889	...	12,002	1,113	...	
Belgaum Division.							
Tent	1	300	1	300	...	...	
Rest-house	1	2,500	1	2,500	...	...	
Nákás	15	6,120	16	6,680	560	...	
Buffaloes...	*g* 36	1,296	...	...	...	1,296	*g* Received from the Central Division of Kánara, out of which 6 died and the rest were sold for Rs. 806-8-0.
Tools, plant and office furniture .	...	*h* 2,822	...	3,015	193	...	*h* The difference of Rs. 33 between this item and the similar one in last year's form in column "on hand at close of the year" is owing to certain discrepancy now rectified.
Total ...	...	13,038	...	12,495	753	1,290	
Dhárwár Division.							
Rest-house	1	800	1	800	...	...	
Watch-houses	9	2,700	9	2,700	...	...	
Depôt-houses	2	250	...	...	...	250	These depôt-houses were pulled down, and the material sold.
Tents	2	380	2	380	...	...	
Tools, plant and office furniture.	...	3,095	...	3,112	17	...	
Total ...	...	7,225	...	6,992	17	250	
Bijápur Division.							
Office tent	1	150	1	150	...	...	
Tools, plant and office furniture .	...	812	...	812	...	...	
Total ...	...	962	...	962	...	...	
Kolába Division.							
Hill tent	1	250	1	250	...	...	
Forest boat with fittings. ...	1	1,278	1	*i* 300	...	978	*i* What it would fetch if sold now.
Tools, plant and office furniture .	...	574	...	1,202	628	...	
Bullock	1	30	1	30	...	...	
Total ...	...	2,132	...	1,782	628	978	
Ratnágiri Division.							
Office tent	1	200	1	200	...	...	
Tools, plant and office furniture .	...	*j* 180	...	205	25	...	*j* The difference of Rs. 7 between this item and that shown in last year's statement in column "on hand at close of the year" is owing to a mistake in the Divisional return, now rectified.
Total ...	...	380	...	405	25	...	

Conservator's Office, Southern Circle :
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

Budget Heads.	Direction.	Belgaum Division.	Bijápur Division.	Dhárwár Division.	Northern Division of Kánara.	Southern Division of Kánara	Central Division of Kánara.	Ratnágiri Division	Kolába Division.	Total.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—										
a. Timber	.....	17,251 14 11	.....	37,834 11 11	3,39,273 4 1	32,977 2 9	1,19,230 8 6	10,320 4 1	6,763 15 9	5,63,651 14 0
b. Firewood and charcoal ...	.....	2,03,075 7 2	.....	7,603 14 0	2,583 5 11	315 0 0	235 8 0	233 6 9	423 4 6	2,14,469 14 4
c. Bamboos	.....	30 12 0	.....	.....	0 11 0	.....	.....	.....	.....	31 7 0
d. Sandalwood	.....	25 9 6	0 10 6	5,838 0 7	6 2 0	7,981 3 2	2,929 12 2	.....	.....	16,781 5 11
e. Grass and other minor produce.	.....	57,613 2 6	.....	52 9 0	18,990 1 5	34,710 2 2	4,468 14 0	58 1 6	1 10 3	1,15,894 8 10
II.—Timber and other produce removed from the Forests by Consumers or Purchasers—										
a. Timber	.....	9,125 5 8	1,640 4 0	815 10 3	17,932 15 10	23,023 0 3	14,643 11 3	784 13 4	90,655 0 0	1,58,620 12 7
b. Firewood and charcoal ...	.....	6,803 1 9	9,668 6 6	755 5 7	19,154 2 8	2,185 3 4	9,322 9 0	53 14 0	26,626 1 9	74,568 12 7
c. Bamboos	.....	7,851 7 5	12 0 0	5,964 6 0	38,976 7 0	1,086 7 6	14,338 8 4	.....	.....	68,229 4 3
d. Grazing and fodder grass ...	.....	23,693 2 5	6,594 12 0	16,133 1 6	6,491 11 8	9,319 6 6	6,680 6 2	331 12 11	2,120 2 6	71,364 7 8
e. Other minor produce	... ..	3,403 8 9	4,618 5 0	2,699 1 0	2,176 7 1	8,552 8 6	4,999 15 0	10 4 9	830 2 9	27,290 4 10
III.—Confiscated, Drift and Waif Wood.	.....	196 0 10	35 7 3	10 6 0	247 15 8	685 6 7	165 1 1	254 12 9	598 2 10	2,193 5 0
VI—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce... ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....	.....	8 2 10	205 6 8	213 9 6
V.—Miscellaneous—										
a. Fines and forfeitures	.....	897 2 0	335 8 0	.....	218 13 1	356 9 11	124 12 4	85 12 7	1,458 4 1	3,476 14 0
b. Refunds...	.....	0 8 0	.....	1 8 0	139 11 7	1 7 0	45 0 0	.....	.....	188 2 7
c. Other sources	.....	1,724 0 10	54 0 3	963 2 8	4,428 5 6	220 0 7	515 8 8	2 2 0	793 13 2	8,701 1 8
Total Revenue ...	.....	3,31,691 3 9	22,959 5 6	78,671 12 6	4,50,620 2 6	1,21,413 10 3	1,77,700 2 6	12,143 7 6	1,30,476 0 3	13,25,675 12 9

EXPENDITURE.

A.—Conservancy and Works.

I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	5,148 9 4	5 4 6	5,448 15 0	1,05,765 6 4	6,022 9 2	46,878 5 0	2,040 2 3	1,121 1 4	1,72,430 4 11
b. Firewood and charcoal ...	.....	92,137 10 7	11 6 0	3,447 14 11	1,325 0 0	250 3 2	17 1 0	.....	.....	97,189 3 8
c. Bamboos	.....	.....	.....	.. ...	.....	.....	.....	... ..	.....	...
d. Sandalwood	.....	2 4 0	.....	397 11 11	225 7 6	989 12 7	222 10 0	.....	.....	1,837 14 0
e. Grass and other minor produce	.....	18,265 1 7	.....	1 6 0	10,109 13 3	14,429 10 4	2,573 5 5	9 11 1	.....	45,388 15 8
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	.....	1,450 4 9	4 8 0	1,301 2 4	526 12 6	830 7 3	616 0 9	.....	1,118 4 1	5,847 7 8
III.—Confiscated, Drift, and Waif Wood.	.....	2 12 0	0 9 0	.....	28 3 8	16 11 0	2 2 0	11 10 8	12 12 9	74 13 1
IV.—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
V.—Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	.....	.....	.....	.....	.....	.....	.....	28 2 3	5,203 1 5	5,231 3 8
VI.—Live Stock, Stores, Tools and Plant—										
a. Purchase of cattle	.....	.. ...	.....	.....	.....	.....	.....	.....	.....	.....
b. Feed and keep of cattle ...	.....	228 15 6	... ..	.....	.....	.....	205 2 10	.....	48 15 0	483 1 4
c. Stores, tools and plant ...	.....	38 7 0	4 3 6	3 0 0	122 5 3	3 8 0	347 12 4	.....	575 10 0	1,094 14 1
VII.—Communications and Buildings—										
a. Roads and bridges	.....	.....	.....	.....	42 10 0	57 3 0	447 2 6	25 6 3	.....	572 5 9
b. Buildings	.....	789 0 3	20 0 0	308 11 6	1,052 4 1	1,066 6 5	1,423 15 8	7 1 6	18 0 0	4,685 7 5
c. Other works	.....	22 1 0	.....	.....	34 11 0	179 14 6	.....	.....	.....	236 10 6
VIII.—Demarcation, Improvement and Extension of Forests—										
a. Demarcation	.....	877 4 8	.....	1 11 0	3,484 3 2	407 7 7	4,038 1 0	63 12 0	797 6 8	9,669 14 1
b. Compensation for land and rights	.....	.....	2 12 2	.....	.....	.....	.....	.....	.....	2 12 2
c. Surveys and working plans ..	.....	19 14 0	224 8 0	7,245 15 6	30,687 9 7	.....	.....	24 2 9	2,473 0 7	40,675 2 5
d. Plantations	.....	64 11 0	260 3 10	1,639 4 0	865 11 9	224 5 6	284 10 10	85 10 6	4 10 0	3,429 3 5
e. Protection from fire	... ..	1,444 5 0	227 0 5	464 15 6	4,218 11 3	295 5 6	1,236 8 4	.....	629 0 3	8,515 14 3
f. Other works	.....	.....	9 12 9	.....	.....	.....	.....	.....	.....	9 12 9
IX.—Miscellaneous—										
a. Refunds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b Law charges	.....	.....	.....	.....	.....	.....	.....	.....	.. ...	.....
c. Other charges	.....	233 3 5	15 9 0	23 1 6	113 5 11	340 4 5	56 13 5	.....	1,168 4 1	1,950 9 9
Total, A.—Conservancy and Works ..	.....	1,20,724 8 1	785 13 2	20,283 13 2	1,58,602 3 3	25,113 12 5	58,349 11 1	2,295 11 3	13,170 2 2	3,99,325 10 7

FORM No. 58—*continued.*

Budget Heads.	Direction.	Belgaum Division	Bijápur Division	Dhárwár Division.	Northern Division of Kánara.	Southern Division of Kánara.	Central Division of Kánara.	Ratnágiri Division.	Kolába Division.	Total.
EXPENDITURE—*continued.*	Rs. a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.
B.—ESTABLISHMENTS.										
I.—Salaries—										
a. Conservators	12,502 11 0	.....	.....	.....	.....	.....	.....	.....	.....	12,502 11 0
b. Superior Officers	302 8 10	6,705 0 0	4,715 10 0	9,829 0 6	20,556 8 1	7,350 0 0	3,000 0 0	1,200 0 0	7,000 0 0	60,658 11 5
c. Subordinate Forest and Depôt Establishments	.....	21,480 5 5	7,487 7 3	12,221 1 10	17,392 5 0	10,460 8 8	12,291 5 0	5,561 4 11	19,888 7 5	1,06,782 13 6
d. Office Establishments... ...	6,247 12 11	2,307 12 9	864 0 0	1,761 14 9	3,564 13 3	2,603 10 1	3,153 15 0	761 8 9	2,188 0 9	23,453 8 3
e. Deputation and Special Allowances	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.—Travelling Allowances—										
a. Conservators	2,455 6 6	.....	.....	.....	.....	.....	.....	.....	.....	2,455 6 6
b. Superior Officers	149 9 2	1,872 0 0	1,362 9 6	1,800 0 0	6,349 10 3	2,100 1 0	1,345 11 4	.....	1,856 8 0	16,836 1 3
c. Subordinate Forest and Depôt Establishments	.....	971 7 11	259 13 0	1,167 0 4	1,651 9 1	611 3 11	719 9 4	540 14 5	988 15 0	6,910 9 0
d. Office Establishments... ...	2,174 6 3	685 12 6	319 7 9	572 3 2	1,270 12 11	884 11 4	773 5 11	369 7 4	601 11 2	7,651 14 4
III.—Contingencies—										
a. Stationery	0 10 0	235 4 11	96 8 6	166 13 1	197 4 2	412 8 10	288 12 4	95 2 0	207 4 6	1,700 4 4
b. Carriage of tents and records...	366 5 6	124 14 0	102 10 6	128 1 6	362 0 2	94 6 0	614 15 3	111 5 3	185 6 6	2,090 0 8
c. Rents, rates and taxes ...	200 0 0	382 0 0	66 0 0	75 3 1	17 13 0	.....	240 0 0	251 2 0	102 0 0	1,334 2 1
d. Pay of Police guards	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e. Official postage	211 10 0	367 0 6	115 9 0	311 0 6	273 5 0	378 8 0	406 1 6	150 1 0	286 11 0	2,499 14 6
f. Sundries	195 1 1	944 0 9	433 4 1	911 4 8	807 7 7	670 4 9	576 14 9	304 11 1	1,298 7 11	6,141 8 8
Payments to officers of other provinces	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, B.—Establishments ...	24,806 1 3	36,075 10 9	15,822 15 7	28,943 11 5	52,443 8 6	25,565 14 7	23,410 10 5	9,345 8 9	34,603 8 3	2,51,017 9 6
GRAND TOTAL OF EXPENDITURE ...	24,806 1 3	1,56,800 2 10	16,608 12 9	49,227 8 7	2,11,045 11 9	50,679 11 0	81,760 5 6	11,641 4 0	47,773 10 5	6,50,343 4 1

No. $\frac{P.}{14831.}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office:
Dated 12th August 1890.

R. LOGAN,
Accountant General.

B 911—10 sc

FORM No. 59.

Forest Department, Bombay, Southern Circle.

Account Current for the year 1889-90.

Dr.

	Rs. a. p.	Rs. a. p.
To Cash Balance	.....	281 4 9
„ VIII.—Assessed Taxes—Income Tax—		
Deductions by Government from Salaries and Pensions ...	.....	2,307 11 1
„ IX.—Forest	.....	13,25,675 12 9
„ XII.—Interest—		
Interest on arrears of Revenue	.....	126 0 10
„ Revenue Deposits, Forests	.....	32,661 8 6
„ Advances Recoverable—		
Forest Advances	3,44,187 14 3	
Objection Book Advances	2,343 10 10	
Tentage Advances	160 0 0	
		3,46,691 9 1
„ Cheques and Bills—Departmental Cheques—		
Forest Cheques drawn		6,62,261 8 0
„ Forest Remittances—	.....	
Remittances to Treasuries	337 2 6	
Inter-divisional Transfers	93,188 4 6	
Inter-departmental Transfers	1,236 12 9	
		94,762 3 9
„ Cash Recoveries	.....	6,449 5 5
„ XXIII.—Stationery and Printing—		
Other Press Receipts—Government Central Press	.....	5 4 0
„ XIX.—Education—Miscellaneous—		
Sale Proceeds of Books (Local)	.....	44 0 0
„ Account between Bombay and Public Works Department (Ordinary Branches)—		
IV.—Items adjustable by Public Works Department—		
Payments into Treasuries by Civil Officers on account of Public Works Department	.....	247 10 7
Grand Total ...	.....	24,71,513 14 9

Cr.

	Rs. a. p.	Rs. a. p.
By 1. Refunds and Drawbacks—		
Refunds—Divided Heads—		
Forests	.....	3,913 1 6
„ 11. Forest	.....	6,50,343 4 1
„ Revenue Deposits—Forest	.....	32,198 2 11
„ Advances Recoverable—		
Forest Advances	3,61,814 12 3	
Objection Book Advances	2,938 9 5	
		3,64,753 5 8
„ Cheques and Bills—		
Departmental Cheques—		
Forest Cheques cancelled	.....	3,923 6 7
„ Forest Remittances—		
Remittance to Treasuries	11,36,634 6 7	
Inter-divisional Transfers	59,024 10 3	
Inter-departmental Transfers	2,275 14 6	
		11,97,934 15 4
„ Cash Recoveries	.....	6,448 13 5
„ Account between Bombay and Military, Bombay—		
IV.—Items adjustable by Military Miscellaneous... ...	.....	19,653 6 11
„ Account between Bombay and Public Works Department, Bombay (Ordinary Branches)—		
IV.—Items adjustable by Public Works Department—		
Inter-departmental Charges	.....	3,482 15 1
„ Account between Bombay and Public Works Department (Railway Branches), Southern Maratha Railway—		
IV.—Items adjustable by Public Works Department ...	.....	1,88,856 6 7
Closing Balance ...	.....	6 0 8
Grand Total ...	.....	24,71,513 14 9

No. $\frac{F}{14827}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office,
12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 60—[*Prescribed.*]

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	1,36,300 5 4	3,49,810 3 1	4,86,110 8 5	3,39,273 4 1	1,46,837 4 4	
	b. Firewood and charcoal	.....	2,583 5 11	2,583 5 11	2,583 5 11	.....	
	c. Bamboos	.....	0 11 0	0 11 0	0 11 0	.....	
	d. Sandalwood	.....	6 2 0	6 2 0	6 2 0	.....	
	e. Grass and other minor produce ..	.....	18,990 1 5	18,990 1 5	18,990 1 5	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,342 8 0	16,590 7 10	17,932 15 10	17,932 15 10	.....	
	b. Firewood and charcoal	4,039 15 0	15,351 15 8	19,391 14 8	19,154 2 8	237 12 0	
	c. Bamboos	.....	38,976 7 0	38,976 7 0	38,976 7 0	.....	
	d. Grazing and fodder grass ...	.....	6,491 11 8	6,491 11 8	6,491 11 8	.....	
	e. Other minor produce	158 6 0	2,089 13 1	2,248 3 1	2,176 7 1	71 12 0	
	III.—Confiscated, Drift and Waif Wood ...	.....	257 15 8	257 15 8	247 15 8	10 0 0	
	Total, Northern Division of Kánara ...	1,41,841 2 4	4,51,148 14 4	5,92,990 0 8	4,45,833 4 4	1,47,156 12 4	
Central Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	27,784 4 3	1,45,279 3 7	1,73,063 7 10	1,19,230 8 6	53,832 15 4	
	b. Firewood and charcoal	.....	235 8 0	235 8 0	235 8 0	.....	
	d. Sandalwood...	38 4 0	2,929 12 2	2,968 0 2	2,929 12 2	38 4 0	
	e. Grass and other minor produce ...	13 15 11	4,505 5 8	4,519 5 7	4,468 14 0	50 7 7	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,712 9 2	13,204 10 4	14,917 3 6	14,643 11 3	273 8 3	
	b. Firewood and charcoal	.....	9,322 9 0	9,322 9 0	9,322 9 0	.....	
	c. Bamboos	.....	14,338 8 4	14,338 8 4	14,338 8 4	.....	
	d. Grazing and fodder grass ..	.....	6,680 6 2	6,680 6 2	6,680 6 2	.....	
	e. Other minor produce	160 6 8	5,066 2 7	5,226 9 3	4,999 15 0	226 10 3	
	III.—Confiscated, Drift and Waif Wood ...	.....	165 1 1	165 1 1	165 1 1	.....	
	Total, Central Division of Kánara ...	29,709 8 0	2,01,727 2 11	2,31,436 10 11	1,77,014 13 6	54,421 13 5	

Southern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	17,284 10 7	30,910 5 11	48,195 0 6	32,977 2 9	15,217 13 9
	b. Firewood and charcoal	.....	315 0 0	315 0 0	315 0 0	.....
	d. Sandalwood	.....	7,981 3 2	7,981 3 2	7,931 3 2	.....
	e. Grass and other minor produce ...	.....	34,710 2 2	34,710 2 2	34,710 2 2	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	1,408 1 1	22,747 10 5	24,155 11 6	23,023 0 3	1,132 11 3
	b. Firewood	49 15 3	2,135 4 1	2,185 3 4	2,185 3 4	.....
	c. Bamboos	2 8 0	1,093 15 6	1,096 7 6	1,086 7 6	10 0 0
	d. Grazing and fodder grass ...	.....	9,319 6 6	9,319 6 6	9,319 6 6	.....
	e. Other minor produce	257 12 0	8,294 12 6	8,552 8 6	8,552 8 6	.....
	III.—Confiscated, Drift and Waif Wood ...	.....	685 6 7	685 6 7	685 6 7	.....
	Total, Southern Division of Kánara ...	19,002 14 11	1,18,193 2 10	1,37,196 1 9	1,20,835 8 9	16,360 9 0
Belgaum.	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	88 12 0	20,862 6 6	20,951 2 6	17,251 14 11	3,699 3 7
	b. Firewood and charcoal	.....	2,03,075 7 2	2,03,075 7 2	203,075 7 2	.....
	c. Bamboos	.....	30 12 0	30 12 0	30 12 0	.....
	d. Sandalwood	.....	25 9 6	25 9 6	25 9 6	.....
	e. Grass and other minor produce ...	.....	57,613 2 6	57,613 2 6	57,613 2 6	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	.....	9,125 5 8	9,125 5 8	9,125 5 8	.....
	b. Firewood and charcoal	.....	6,803 1 9	6,803 1 9	6,803 1 9	.....
	c. Bamboos	.....	7,851 7 5	7,851 7 5	7,851 7 5	.....
	d. Grazing and fodder grass ...	.....	23,693 2 5	23,693 2 5	23,693 2 5	.....
	e. Other minor produce	.....	3,403 8 9	3,403 8 9	3,403 8 9	.....
	III.—Confiscated, Drift and Waif Wood ...	.....	196 0 10	196 0 10	196 0 10	.....
	Total, Belgaum ...	88 12 0	3,32,680 0 6	3,32,768 12 6	3,29,069 8 11	3,699 3 7

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Dhárwár ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	6,717 9 6	32,584 2 5	39,301 11 11	37,834 11 11	1,467 0 0	
	b. Firewood	.....	7,603 14 0	7,603 14 0	7,603 14 0	.....	
	d. Sandalwood	.....	5,838 0 7	5,838 0 7	5,838 0 7	.....	
	e. Grass and other minor produce ...	.....	52 9 0	52 9 0	52 9 0	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	819 6 3	819 6 3	815 10 3	3 12 0	
	b. Firewood	.....	755 5 7	755 5 7	755 5 7	.....	
	c. Bamboos	.....	5,964 6 0	5,964 6 0	5,964 6 0	.....	
	d. Grazing and fodder grass ..	.....	16,133 1 6	16,133 1 6	16,133 1 6	.....	
	e. Other minor produce	.....	2,699 1 0	2,699 1 0	2,699 1 0	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	10 6 0	10 6 0	10 6 0	.....	
	Total, Dhárwár ...	6,717 9 6	72,460 4 4	79,177 13 10	77,707 1 10	1,470 12 0	
Bijápur ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	d. Sandalwood	.....	0 10 6	0 10 6	0 10 6	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	1,640 4 0	1,640 4 0	1,640 4 0	.....	
	b. Firewood	.....	9,668 6 6	9,668 6 6	9,668 6 6	.....	
	c. Bamboos	.....	12 0 0	12 0 0	12 0 0	.....	
	d. Grazing and fodder grass ...	.....	6,594 12 0	6,594 12 0	6,594 12 0	... ..	
	e. Other minor produce	.....	4,618 5 0	4,618 5 0	4,618 5 0	.....	
	III.—Confiscated, Drift and Waif Wood ...	... ..	35 7 3	35 7 3	35 7 3	.....	
	Total, Bijápur ...	... ..	22,569 13 3	22,569 13 3	22,569 13 3	.....	
	I.—Timber and other Produce removed from the Forests by Government Agency—						
	a. Timber	.....	6,763 15 9	6,763 15 9	6,763 15 9	.....	
	b. Firewood	.....	423 4 6	423 4 6	423 4 6	.....	
	c. Grass and other minor produce ...	.....	1 10 3	1 10 3	1 10 3	.....	

Kolába...	*II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—*											
	a. Timber	.....		96,095	8	0	96,095	8	0	90,655	0	0	5,440	8	0
	b. Firewood	2,125	0	0	25,376	1	9	27,501	1	9	26,626	1	9	875	0	0
	d. Grazing and fodder grass ...	.....			2,120	2	6	2,120	2	6	2,120	2	6	.....		
	e. Other minor produce	.....			830	2	9	830	2	9	830	2	9	.....		
	III.—Confiscated, Drift and Waif Wood— ...	.....			598	2	10	598	2	10	598	2	10	.....		
	Total, Kolába ...	2,125	0	0	1,32,209	0	4	1,34,334	0	4	1,28,018	8	4	6,315	8	0
Ratnágiri ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*											
	a. Timber	.....			10,320	4	1	10,320	4	1	10,320	4	1	.....		
	b. Firewood	.....			233	6	9	233	6	9	233	6	9	.....		
	e. Grass and other minor produce ...	.....			58	1	6	58	1	6	58	1	6	.....		
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—											
	a. Timber	.....			784	13	4	784	13	4	784	13	4	.....		
	b. Firewood and charcoal	.....			53	14	0	53	14	0	53	14	0	.....		
	d. Grazing and grass	.....			331	12	11	331	12	11	331	12	11	.....		
	e. Other minor produce	.....			10	4	9	10	4	9	10	4	9	.....		
	III.—Confiscated, Drift and Waif Wood— ...	.....			254	12	9	254	12	9	254	12	9	.....		
	Total, Ratnágiri ...	.....			12,047	6	1	12,047	6	1	12,047	6	1	.....		
Total, Southern Circle.	*I.—Timber and other Produce removed from the Forests by Government Agency—*											
	a. Timber	1,88,175	9	8	5,96,530	9	4	7,84,706	3	0	5,63,651	14	0	2,21,054	5	0
	b. Firewood and charcoal	.....			2,14,469	14	4	2,14,469	14	4	2,14,469	14	4	.....		
	c. Bamboos	.....			31	7	0	31	7	0	31	7	0	.....		
	d. Sandalwood...	38	4	0	16,781	5	11	16,819	9	11	16,781	5	11	38	4	0
	e. Grass and other minor produce ...	13	15	11	1,15,931	0	6	1,15,945	0	5	1,15,894	8	10	50	7	7
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—											
	a. Timber	4,463	2	3	1,61,008	1	10	1,65,471	4	1	1,58,620	12	7	6,850	7	6
	b. Firewood and charcoal	6,214	14	3	69,466	10	4	75,681	8	7	74,568	12	7	1,112	12	0
	c. Bamboos	2	8	0	68,236	12	3	68,239	4	3	68,229	4	3	10	0	0
	d. Grazing and fodder grass ...	.....			71,364	7	8	71,364	7	8	71,364	7	8	.....		
	e. Other minor produce	576	8	8	27,012	2	5	27,588	11	1	27,290	4	10	298	6	3
	III.—Confiscated, Drift and Waif Wood ...	.....			2,203	5	0	2,203	5	0	2,193	5	0	10	0	0
	Grand Total ...	1,99,484	14	9	13,43,035	12	7	15,42,520	11	4	13,13,096	1	0	2,29,424	10	4

NOTE.—The revenue under budget heads IV and V is Rs. 213-9-6 and Rs. 12,366-2-3 respectively. This has not been shown in this statement in detail, as there are no outstandings against those heads. The total amount realized during the year is Rs. 13,25,675-12-9 (*vide* Form No. 58).

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 61.

Forest Department, Bombay, Southern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.

	Department Debtor.			Department Creditor			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities.)	
Contractors.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Belgaum	...	35,553 2 7	35,553 2 7	10 10 3	35,542 8 4	35,553 2 7	.....	...	
Bijápur	...	.....	.....	.....	.....	.....	.....	...	
Dhárwár	...	1,700 0 0	1,700 0 0	250 0 0	1,450 0 0	1,700 0 0	.....	...	
Northern Division of Kánara	...	28,309 13 0	28,309 13 0	372 0 0	41,617 2 0	41,989 2 0	13,679 5 0	...	
Central Division of do....	...	10,341 1 6	10,341 1 6	.....	15,058 0 0	15,058 0 0	4,716 14 6	...	
Southern Division of do....	...	.....	.....	.....	.....	.....	.....	...	
Ratnágiri	...	.....	.....	.....	.....	.....	.....	...	
Total Contractors ...	...	75,904 1 1	75,904 1 1	632 10 3	93,667 10 4	94,300 4 7	18,396 3 6	...	
Disbursers.									
Belgaum	...	51,074 10 0	51,074 10 0	1,704 5 3	50,345 10 3	52,049 15 6	975 5 6	...	
Bijápur	...	8,196 4 6	8,196 4 6	.....	8,195 12 6	8,195 12 6	.....	0 8 0	
Dhárwár	...	19,717 11 6	19,717 11 6	.....	19,729 8 0	19,729 8 0	11 12 6	...	
Northern Division of Kánara	...	87,610 6 8	87,610 6 8	.....	87,610 12 6	87,610 12 6	0 5 10	...	
Central Division of do....	...	28,280 1 2	28,280 1 2	1,228 8 7	28,131 2 8	29,359 11 3	1,079 10 1	...	
Southern Division of do....	...	39,877 10 1	39,877 10 1	2,882 3 10	40,607 6 10	43,489 10 8	3,612 0 7	...	
Kolába	...	24,783 10 11	24,783 10 11	126 3 4	24,767 6 10	24,893 10 2	109 15 3	...	
Ratnágiri	...	8,743 6 4	8,743 6 4	.....	8,759 6 4	8,759 6 4	16 0 0	...	
Total Disbursers ...	...	2,68,283 13 2	2,68,283 13 2	5,941 5 0	2,68,147 1 11	2,74,088 6 11	5,805 1 9	0 8 0	
Grand Total ...	...	3,44,187 14 3	3,44,187 14 3	6,573 15 3	3,61,814 12 3	3,68,388 11 6	24,201 5 3	0 8 0	

No. $\frac{\text{F.}}{14842}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office:
Dated 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 62.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Financial results of the year 1889-90.

Division.	TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY.		OTHER REVENUE.		FORMATION, PROTECTION AND IMPROVEMENT OF FORESTS.	TOTAL.		REMARKS.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction	...	...	...	24,806	...	...	24,806	
Northern Division of Kánara	3,61,101	1,44,260	89,519	6,166	60,620	4,50,620	2,11,046	
Central Division of Kánara	1,27,030	62,299	50,670	7,150	12,311	1,77,700	81,760	
Southern Division of Kánara	76,265	28,534	45,149	13,954	8,192	1,21,414	50,680	
Belgaum...	2,77,997	1,34,091	53,694	10,975	11,734	3,31,691	1,56,800	
Dhárwár	51,329	28,592	27,343	7,733	12,903	78,672	49,228	
Bijápur	1	17	22,958	3,985	12,607	22,959	16,609	
Kolába	7,189	15,600	1,23,287	10,968	21,206	1,30,476	47,774	
Ratnágiri	10,867	6,735	1,277	28	4,878	12,144	11,641	
Total ...	9,11,779	4,20,128	4,13,897	85,765	1,44,451	13,25,676	6,50,344	

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

No. 4477 of 1890.

Belgaum, 19th November 1890.

Submitted to Government in the Revenue Department.

2. The forest area is practically the same as last year, 125 acres have been added to reserved forest in Ratnágiri, and 98 deducted from protected forest in Kánara.

3. It is a subject for regret that settlement has proceeded so slowly. In Kolába and Ratnágiri only it has been completed. Elsewhere it is backward; and at the present rate of progress, Mr. MacGregor computes it will take eight years to complete the forest settlement of Kánara. (The district contains roughly two-thirds of the forest area of the division). The proposals which were submitted with a view to hasten the settlement, which are partly endorsed by the Conservator in his 16th paragraph, have been lately negatived by Government. It is hoped that Mr. Gray, the Settlement Officer for Belgaum and Dhárwár, will have a better record of work to show at the end of the current year than he had last. The work he has to do is simple enough, and only requires personal activity, as full enquiries were made by his predecessor, and much of the work connected with the conversion of protected into reserved forest must be purely formal.

4. The information regarding the cost of settlement per square mile up to date, required by the Government of India, has not been furnished; but the Conservator promises to supply it later on. The cost of settlement during the year was 20·24 per square mile in Kánara and 96·50 in Belgaum. The high rate in the latter district is attributed to the fact that "the office being new (it) took some time to get into working order." The undersigned has already pointed out to Mr. Gray, the Forest Settlement Officer, the necessity for increased energy and activity on his part.

5. The progress made by Messrs. Oliver and Bell in preparing working plans is not satisfactory. The question of laying a railway or tram line in the forests in the Supa Division to connect them with the Southern Marátha Railway has been fully discussed in the report of the Committee, which met at Dhárwár last August.

Paras. 22 to 26.

6. The cost of fire-protection was nearly three times as high as the rate complained of last year. The great extent of the forests in the Southern Circle and the manner in which agricultural settlements are planted in the heart of the forests, account, perhaps, for the enhanced difficulties and cost of protection from fire, as compared with the Northern Circle, where the forests are generally in separate compact blocks and topographically distinct from the cultivated area.

7 Naturally with restricted grazing privileges, the fees from grazing have increased.

8. The financial results show a decided improvement, revenue having risen from Rs. 12,73,554 to Rs. 13,25,676, the expenditure at the same time falling from Rs. 6,75,601 to Rs. 6,50,343, showing in net increase of Rs. 77,380. The increase is chiefly due to larger quantities of timber being put upon the market. As Mr. MacGregor says "the quantity exploited is well within the estimated sustained yield of the tracks treated," it may be hoped that the improvement is more than temporary. The Southern Marátha Railway has taken a very much larger quantity of fuel, and it is probable that if the Company would be sufficiently enterprising to lay tram lines to portions of the forest not yet exploited, it might secure a large additional supply at a less cost than the present.

9. The Conservator himself was active in the supervision of his charge. His remarks on the extension of garden cultivation (para. 130) cannot be dealt with here, the Commissioner not having any local knowledge to assist him, but it is a subject to which he hopes to be able to pay attention during this year's tour. Although the destruction of valuable forest may make it so costly to Government as to be viewed, as Mr. MacGregor views it, with apprehension, he appears to forget that the extension of the most productive form of cultivation is in itself a good thing. The real question seems to be whether in the interests of the cultivators themselves it will not be necessary to limit it, should it be shown that the demands on the forests are too great for them to meet—a result which must of course end in the abandonment of the gardens themselves.

ALFRED KEYSER,
Acting Commissioner, S. D.

B 911—12 SD

NORTHERN CIRCLE.

No. 3886 of 1890-91.

From

A. T. SHUTTLEWORTH, Esquire,
Conservator of Forests, Northern Circle ;

To

JOHN NUGENT, Esquire,
Chief Secretary to Government,
Revenue Department,
Bombay.

Poona, 31st October 1890.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Northern Circle for the year 1889-90, with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Through the Commissioners, Northern and Central Divisions.

911—a NC

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FOREST ADMINISTRATION REPORT

OF THE

NORTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1889-90.

INTRODUCTION.

Forest administration in the Northern Circle has, the Conservator believes and he hopes he will show this by his report, maintained a healthy progressive advancement in every direction during the year 1889-90.

2. The net increase of the area of reserved and protected forests, finally constituted under the Forest Act, during the year, has amounted to 107 square miles and 329 acres, and in addition thereto 454 square miles and 610 acres have been provisionally notified under sections 4 and 28, of which 194 square miles and 117 acres are proposed Reserved Forests awaiting treatment by the Forest Settlement Officer.

3. Settlement inquiries connected with 456 square miles of reserved forests were undertaken and completed during the year.

4. 2,269 miles of forest boundaries have been defined upon the ground by 28,398 newly constructed special forest boundary marks.

5. The Privilege Code of the Khándesh forests has been revised by the local Revenue and Forest officers, with the sanction of Government, after the rules had been discussed in Committee.

6. A notable occurrence of the year has been the passing of the orders of Government in their Resolution No. 6303, dated 27th August 1889, on the report of the Forest Commission which had been appointed by His Excellency the Governor in Council, in the year 1885, to inquire into forest management, more particularly in respect of the Thána and Kolába Collectorates.

7. The Working Plans Division has made considerable headway in the Konkan, its operations having been confined practically to the Thána forests, where a systematic arrangement of conservancy and works is more immediately demanded than in the Deccan or Gujarát, and satisfactory progress has been made in marking out compartments on the ground in both the Thána Divisions.

8. The Forest Survey Party, under the superintendence and direction of Colonel Pullan, has been working in the Thána, Násik, Poona and Sátára Divisions, and has rendered a good account of itself by outturn of work: 105 square miles having been triangulated, 830·63 square miles traverse surveyed, and detailed internal surveys having covered 20·18 miles on the 16 inches scale, 84·48 square miles on the 8 inches scale, and 70·34 square miles on the 4 inches.

9. No change in the constitution and numerical strength of the superior and of the subordinate forest establishments has been made. But a very strong representative Committee of Revenue and Forest officers has, under the orders of Government, been engaged in considering and reporting upon the reorganization of the subordinate staff, both protective and office. The proposals, which have been submitted, provide for considerable increases in numerical strength, for more encouraging prospects in pay, promotions and pensions, and for a better educated class of subordinates.

10. The rainfall in the more eastern portion of the Deccan was deferred, capricious and below the average; and consequently conditions were not favourable to reproduction, natural as well as artificial.

11. Fire conservancy was more satisfactory than in the preceding year, the percentage of area burnt to the total forest area being 16·0 against 18·7 in 1888-89.

12. Protection against forest offences has been very fair: 17·5 per cent. of prosecuted offences have been unsuccessful against 24·7 per cent. of failures of the year preceding. Eighty-seven other cases have been treated under the Land Revenue

Code, and 7,926 cases have been compounded under section 67 of the Forest Act, and a total sum of Rs. 17,074-15-1 has been received in payment of compensation for damages.

13. 197,366 cattle, including 64,059 sheep and 41,626 goats, have been impounded for trespassing in closed forests.

14. 12,95,717 cattle have been provided with pasturage in open forests on payment of fees; and 803,016 cattle have enjoyed free grazing inside the open forests.

15. The revenues from fodder grass and grazing have continued to increase on the whole, although in some divisions the receipts are not so high as of the year before.

16. The financial results of the year have been still more brilliant than of the preceding year, the revenue of which had broken the record up to that date.

17. The following statement will show the names of the superior Forest officers, who have been conducting the administration of the forests during the year and the stations they have occupied, with other particulars :—

Northern Circle.

Mr. A. T. Shuttleworth, Conservator of Forests, 1st Grade, throughout the year.

No.	Forest Division.	Name of Officer.	Rank.	Designation.	From	To	Remarks.
1	North Thána ..	Mr. A. D. Wilkins ..	Deputy Conservator of Forests, 4th Grade.	Divisional Forest Officer.	1st April 1889 ..	31st October 1889.	
		,, F. Gleadow ..	Do. ..	Do. ..	1st Nov. 1889 ..	31st March 1890.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	North Sub-division Forest Officer.	1st April 1889 ..	20th May 1889.	
		,, J. Baptista ..	Acting do.	Do. ..	21st May 1889 ..	1st July 1889.	
		,, A. R. Maidment.	Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	2nd July 1889 ..	19th do.	
		,, J. Baptista ..	Acting do.	Do. ..	20th do. ..	19th Dec. 1889.	
		,, A. C. Robinson..	Do. ..	Do. ..	20th Dec. 1889 ..	31st March 1890.	
		,, A. R. Maidment.	Sub-Assistant do.	South Sub-division Forest Officer.	1st April 1889 ..	19th July 1889.	
		,, J. Baptista ..	Acting do.	Do. ..	20th July 1889 ..	31st March 1890.	
2	South Thána ..	Mr. G. P. Millett ..	Assistant Conservator of Forests, 1st Grade.	Divisional Forest Officer.	1st April 1889 ..	Do.	
		,, R. H. Madan ..	Acting do. 3rd Grade.	North Sub-division Forest Officer.	Do.	9th Sept. 1889.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	10th Sept. 1889 ..	27th October 1889.	
		,, R. H. Madan ..	Acting Assistant do.	Do. ..	28th October 1889	21st Feb. 1890.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	22nd Feb. 1889 ..	31st March 1890.	
		,, G. P. Millett ..	Assistant Conservator of Forests, 1st Grade.	South Sub-division Forest Officer.	1st April 1889 ..	21st May 1889.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	22nd May 1889 ..	31st March 1890.	
3	East Khándesh..	Mr. F. R. Desai ..	Deputy Conservator of Forests, 1st Grade.	Divisional Forest Officer.	1st April 1889 ..	Do.	
4	West Khándesh	Mr. R. S. F. Fagan..	Do. 4th Grade.	Do. ..	Do.	24th August 1889.	
		,, F. R. Desai ..	Do. 1st Grade.	Do. ..	25th Augst 1889..	24th Sept. 1889.	
		,, R. S. F. Fagan..	Do. 4th Grade.	Do. ..	25th Sept. 1889 ..	31st March 1890.	
		,, G. S. Hinge ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Sub-division Forest Officer.	1st April 1889 ..	Do.	
5	Násik	Mr. W. G. Betham ..	Deputy Conservator of Forests, 2nd Grade.	Divisional Forest Officer.	Do.	Do.	
		,, W. A. Wallinger.	Sub-Assistant Conservator of Forests, 3rd Grade.	Sub-division Forest Officer.	Do.	Do.	
6	Ahmednagar ..	Mr. H. Mainwaring..	Deputy do.	Divisional Forest Officer.	Do.	31st October 1889.	
		,, A. D. Wilkins .	Do. 4th Grade.	Do. ..	1st Nov. 1889 ..	31st March 1890.	
7	Poona	Mr. R. C. Wroughton	Do. 2nd Grade.	Do. ..	1st April 1889 ..	Do.	
		,, W. R. Gaunde ..	Sub-Assistant Conservator of Forests, 2nd Grade.	Sub-division Forest Officer.	Do.	Do.	
8	Sátára	Mr. C. Greatheed ..	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do.	11th Sept. 1889.	
		,, R. H. Madan ..	Acting Assistant do.	Do. ..	12th Sept. 1889 ..	26th October 1889.	
		,, C. Greatheed .	Deputy do.	Do. ..	27th October 1889	31st March 1890.	
		,, L. D. Joshi ..	Sub-Assistant Conservator of Forests, 1st Grade.	Sub-division Forest Officer.	1st April 1889 ..	Do.	
9	Sholápur ..	Mr. H. Mainwaring..	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do.	17th October 1889.	
		,, S. Hornidge ..	Assistant Conservator of Forests, 1st Grade.	Do. ..	18th October 1889	31st March 1890.	
10	Surat	Mr. W. S. Hexton ..	Deputy do.	Do. ..	1st April 1889 ..	30th Jan. 1890.	
		,, G. B. Reid, C.S. .	Collector..	Do. ..	31st January 1890	1st Feb. 1890.	
		,, Darasha Dosabhai.	City Magistrate ..	Do. ..	2nd Feb. 1890 ..	23rd Feb. 1890.	
		,, R. H. Madan ..	Acting Assistant Conservator of Forests, 3rd Grade.	Do. ..	24th Feb. 1890 ..	31st March 1890.	
11	Panch Mahás ..	Mr. H. W. Keys ..	Assistant Conservator of Forests, 1st Grade.	Do. ..	1st April 1889 ..	Do.	
12	Working Plans ..	Mr. T. B. Fry ..	Deputy Conservator of Forests, 3rd Grade.	Do. ..	Do.	Do.	

CHAPTER I.

AREA AND BOUNDARIES.

1.—AREA.

18. The forest area of the Northern Circle, both reserved and protected, as it stood on 1st April 1889, the additions thereto and deductions therefrom, during the year under report, and the final result on the 31st March 1890, are exhibited in the following table :—

No.	Division.	Area on 1st April 1889.				Added during the year.				Disforested during the year.				Area on 31st March 1890.			
		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	North Thána	300	16	295	480	72	102	34	438	..	97	..	262	372	21	330	16
2	South Thána	327	21	352	384	110	628	..	..	..	..	10	6	438	9	342	378
3	East Khándesh ..	799	480	53	161	..	..	..	..	1	568	..	..	797	552	53	161
4	West Khándesh ..	1,238	296	195	151	..	108	..	..	39	553	..	..	1,198	491	195	151
5	Násik	1,277	548	..	..	1	293	..	..	86	573	..	..	1,192	268	..	..
6	Ahmednagar	858	611	11	114	5	586	..	..	..	74	..	..	864	433	11	114
7	Poona	740	148	..	..	7	261	..	..	4	542	..	..	742	507	..	..
8	Sátára	666	1	..	23	16	69	..	619	..	57	..	16	682	13	..	631
9	Sholápur	272	446	..	..	4	156	..	..	..	..	..	..	276	602	..	..
10	Surat	69	124	..	..	..	..	..	..	1	4	..	..	68	120	..	..
11	Dángs	678	320	..	..	..	..	..	..	..	..	..	..	678	320	..	..
12	Kaira	..	39	..	..	..	..	..	..	..	..	..	..	..	39	..	..
13	Panch Maháls	183	177	139	85	..	1	..	..	..	55	..	449	183	123	188	276
14	Ahmedabad	34	118	..	..	..	..	..	..	..	316	..	..	33	442	..	..
	Total ..	7,446	145	1,047	123	218	284	35	417	135	279	11	93	7,529	150	1,071	447

19. A very large proportion, of the 218 square miles and 284 acres shown as added during the year to reserved forests, aggregating 175 square miles and 385 acres, represents rectification of areas or correction of book entries which appear in four divisions :—

	Square Miles.	Acres.
North Thána Division	66	189
South Thána do.	108	468
Násik do.	....	349
Sátara do.	...	19

In this connection the Forest Settlement Officer, Thána, writes :—

"I determined to have a correct area for this year's returns, and to arrive at so desirable a result have separately examined the area of every survey number under forest in each táluka throughout the district. I can guarantee the returns now given to be as correct as it is possible to make them."

The remaining 42 square miles and 539 acres comprise waste or forest lands, which have been finally constituted reserved forest by notification published under section 19 of the Forest Act. In the same way out of total exclusions amounting to 135 square miles and 279 acres, the rectification of book entries accounts for 126 square miles and 520 acres, which have occurred, 39 square miles 68 acres in the division of West Khándesh, 86 square miles 573 acres in the division of Násik, 495 acres in Surat and 24 acres in Panch Mahálś ; and only 8 square miles and 399 acres have been actually disforested by notification published under section 26.

20. As regards protected forests, 35 square miles 417 acres added, mean no increase beyond that caused by the rectification of inaccurate entries in the divisions of North Thána to the extent of 34 square miles and 438 acres, and of Sátára to 619 acres. On the other hand, the disforested area of 11 square miles 93 acres is made up of correction of book entries of 10 square miles and 6 acres in South Thána, and in addition thereto 1 square mile 87 acres excluded from protected forests in order to be assigned to cultivation or other purpose.

21. The total forest area at the close of the year stands at 8,600 square miles and 597 acres, made up of 7,529 square miles and 150 acres of reserved, and 1,071 square miles and 447 acres of protected forests, which is equal to 16·7 per cent. of the country covered by the Northern Circle, including the Collectorates of Ahmedabad, Kaira, Broach, Panch Mahálś, Surat, Thána, Khándesh, Násik, Ahmednagar, Poona, Sátára and Sholápur. In addition thereto are some small

private forests in a more or less ruined condition in alienated villages with forest rights attaching to them, and also a few inconsiderable stretches of woodlands here and there in Native States of Bhor, Jawhár, Dharampor and Bánsda.

22. The work of forest demarcation, meaning the selection of lands for constitution as reserved forest, or to be called protected forest, has been very nearly completed in all the Collectorates of the Northern Circle, as will be seen from this statement :—

No.	Collectorate.	Number of Tálukas.	Number of Tálukas			Remarks.
			In which demarcation has been completed and sanctioned.	In which demarcation is incomplete.	In which no demarcation is undertaken.	
1	Thána	10	6	1	3†	†Dáhánu, Murbád and Sháhápur, but a provisional selection of areas for reservation has been made in these three tálukas by the Forest officers.
2	Khándesh ...	16	11	4	1‡	
3	Násik	12	11	1	...	
4	Ahmednagar ...	11	11	...	...	
5	Poona	8	8	...	...	‡ Sindkheda.
6	Sátára	11	11	...	...	
7	Sholápur ..	7	7	...	...	
8	Surat*	8	1	4	3§	§ There are no forests in these tálukás.
9	Panch Mahás ...	3	3	...	...	
10	Ahmedabad ...	7	1	...	6‖	‖ Do. do.
	Total ...	93	70	10	13	

* Exclusive of Dángs.

23. The work of acquiring such occupied lands as are situated within the approved forest boundaries, has progressed during the year under the officers of the Revenue Department, so that in the Poona and Ahmednagar Collectorates 437 and 1,687 acres, respectively, have been obtained by giving other available waste lands in exchange ; and 2,291 acres in the Collectorates of Thána, Khándesh, Ahmednagar, Sátára and Panch Mahás have been purchased by payment of Rs. 6,471 in compensation. An additional expanse of occupied lands upon the catchment area of the Tánsa lake, which is under construction in the Sháhápur Táluka of the Thána Collectorate for service in the water-supply of the city of Bombay, has been acquired during the year by the Special Officer, Mr. Vishnu Ramchandra, who is vested with the powers of Forest Settlement Officer in order to constitute as reserved forests the whole of the basin outside the wetted area of the lake ; 552 acres have been secured during the year by expenditure of Rs. 7,486, the rates of compensation varying from 10 to 25 times the assessment affixed to the lands.

24. The year's statement of occupied lands acquired shows the following results :—

No.	Collectorate.	Area acquired.		Amount paid.			Remarks.
		A.	g.	Rs.	a.	p.	
1	Thána	604	1	8,730	12	2	
2	Khándesh ...	78	28	215	0	0	
3	Násik	.....		.....			
4	Ahmednagar ...	*3,785	32	4,865	12	4	*Out of this, 1,687 acres have been acquired by exchange.
5	Poona	437	12	...	..		By Exchange.
6	Sátára	50	11	72	8	0	
7	Sholápur ...	.....		.....			
8	Surat	.....		.....			
9	Panch Mahás ...	11	14	72	9	0	
	Total ...	4,967	18	13,956	9	6	

Constant attention is required to be given to this work in all the districts, where a considerable number of survey numbers remain to be acquired.

25. The following statement shows the areas, which have been provisionally notified under sections 4 and 28 of the Forest Act, in the several Collectorates of the Northern Circle and were awaiting the completion of forest settlement inquiries at the close of the year:—

No.	Collectorate.	Section 4.		Section 28.		Total.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	Thána	10	452	...	...	10	452
2	Khándesh	171	153	260	493	432	6
3	Násik	...	179	...	...	...	179
4	Ahmednagar	4	355	...	...	4	355
5	Poona	3	628	...	...	3	628
6	Sátára	...	35	...	...	...	35
7	Sholápur	...	...	...	...	...	...
8	Surat	...	229	...	...	...	229
9	Panch Mahála ...	3	6	...	...	3	6
	Total ...	194	117	260	493	454	610

26. Mr. W. S. Owen, Assistant Superintendent, Revenue Survey Department, who is the Special Forest Demarcation and Settlement Officer for the Thána Collectorate, reports his work for the year to have included the completion of the forest conservancy projects for the Váda and Máhim Tálukas with the preparation of maps to illustrate his proposals; of the settlement inquiries of the Váda forests with decisions recorded; of the inquiries into rights in respect of the reserved trees upon occupied lands in the Váda Táluka, also into the forest rights of the alienated villages and of isolated inám lands. The settlement inquiries affecting the Isáfat villages of Kurung and Pathraj in the Karjat Táluka, and the inquiry regarding the inám village of Mánivli in the Karjat Táluka, were disposed of. And further, having received intimation of revision survey operations being about to be commenced at once in the Bhiwndi Táluka, Mr. Owen undertook and completed the work of laying down the forest boundaries upon the maps, and preparing accurate lists of forest lands in each village.

27. Mr. Dodgson, C. S., who is the Special Forest Settlement and Demarcation Officer of the Khándesh Collectorate, demarcated a portion of the boundary of the Akráni-Toranmal reserved forest, and his work was approved and sanctioned by Government Resolution No. 1359, dated 20th February 1890; he completed the settlement of certain forest lands which had been provisionally notified under Chapter II of the Forest Act in the Navápur Petha, and revised the boundary of the North Navápur reserved forests in accordance with the orders of Government Resolution No. 7451 of the 9th November 1888; and he was engaged in inspecting the forest lands of the Pimpalner Táluka in view of submitting a forest conservancy project for this sub-division; and he likewise visited the protected forests of the Chálisgaon, Sávda and Chopda Tálukas in order to determine what portions of them, if any, should be constituted reserved forests, and what might be done with the balance remaining.

28. The revision settlement reports of the Dhulia and Taloda Tálukas were submitted during the year, and the orders of Government were passed upon them in Resolutions Nos. 9620 and 6466, dated 20th December and 2nd September 1889, respectively.

29. The demarcation and settlement work in the Násik District is almost complete, and no Special Forest Settlement Officer is in entertainment. The final notification under section 19 of the Forest Act has not yet been issued in respect of the Dindori forests, but some minor additions to reserved forests were made in the Igatpuri, Nándgaon and Kalvan Ranges during the year.

30. Mr. V. B. Vadekar, District Deputy Collector, who is the Special Forest Settlement Officer of the Ahmednagar Collectorate, in addition to his own Revenue duties, completed the settlement proceedings in respect of certain forest lands which had been provisionally notified under section 4 of the Forest Act, which were then finally constituted reserved forests; and he acquired by private negotiation, occupied lands measuring 1,687 acres, which are within the sanctioned forest boundaries.

31. The Forest Settlement Office, Poona, was in charge of Messrs. Gibb and Cappel, C. S., Assistant Collectors, from 1st to 28th October and 29th October to 31st March, respectively, in addition to their own Revenue and Magisterial duties. Forest demarcation in this district is practically complete, for the two villages Singhar and Donja, referred to in paragraph 37 of last year's report, have been examined and reported upon by Mr. Gibb in consultation with the Divisional Forest Officer, Poona, and a forest conservancy project has been submitted to Government for orders. The final settlement reports of Mával, Khed, Ambegaon and Purandhar Ranges were sanctioned by Government during the year, and the reports for the Bhimthadi and Bárámati Ranges have been submitted to Government. Settlement enquiries were undertaken in the Junnar, Haveli, Khed and Mulshi Ranges, in respect of all the lands which have been provisionally notified under section 4 of the Forest Act. Under authority of Government Resolution No. 2721, dated 10th April 1889, the private grazing and grass rights found to exist in certain forest numbers of Barowli and Bembadohol, Táluka Mával, have been commuted under section 15 of the Forest Act.

32. In the Sátára Collectorate settlement enquiries of claims over forest lands, provisionally notified under section 4 of the Forest Act, were completed by Mr. Snow, C.S., Assistant Collector, in the villages of the Válva and Pátan Tálukas, who is in Revenue charge of these sub-divisions, and by Mr. Scott, District Deputy Collector, in the villages of the Khatáv and Khánápur Tálukas, of which he is the Revenue officer. The claims in most cases were restricted to rights of way. Orders of Government have been passed upon the reports of the inquiries made into the forest rights of the holders of all the alienated villages in the Sátára District, with the exception of 25 villages in the Jávli Táluka, which still remain to be disposed of.

33. The demarcation work in the Sholápur Collectorate is also practically over, but some details remain to be completed, such as the acquisition and constitution, under Chapter II of the Forest Act, of occupied lands situated within the sanctioned forest boundaries. Under Government Resolution No. 6691, dated 9th September 1889, upon the supplementary demarcation and settlement report of the Sángola Táluka, 2,716 acres have been added to reserved forests during the year, and settlement inquiries have been made by Mr. Bhaskarrao Ramchandra Heblikar, District Deputy Collector, who is Forest Settlement Officer of the Collectorate in addition to his own Revenue duties, in respect of certain occupied lands inside the forest areas which have been acquired by payment of compensation.

34. The forest settlement of the Mándvi Táluka of the Surat District was completed during the year by Mr. Umedram Ranchordas, District Deputy Collector, who had been appointed Forest Settlement Officer for the Surat Collectorate in addition to his other duties, and Government issued orders upon the work in their Resolution No. 6445, dated 31st August 1889. Mr. Gibb, C.S., was appointed a Special Forest Settlement and Demarcation Officer for the leased Dángs by Resolution of Government, No. 181, dated 10th January 1890, and he had barely commenced the operations before the close of the year.

35. No Special Forest Settlement Officer has been working in the Panch Mahals; but the Assistant Collector has completed the forest settlement of the Godhrá and Hálol Tálukas and has submitted reports thereupon. The forests are not burdened with any private rights, but public rights of way have been found to exist through the greater portion of the forest areas, and these public rights have been recorded.

2.—FOREST SETTLEMENTS.

36. Forest settlement proceedings have been completed during the year, so that the forest and waste lands which had been provisionally notified during

the current and previous years have been finally and legally constituted reserved and protected forests, to the extent shown below, in the different divisions. This work has extended over both provisionally notified forest lands and old forests, which had been gazetted under section 34 of the Forest Act in March 1879 :—

No.	Division.	Area.		Remarks.
		Square Miles.	Acres.	
1	North Thána	287	259	
2	South Thána	120	634	
3	East Khándesh	1	568	
4	West Khándesh	40	21	
5	Násik	88	226	
6	Ahmednagar	6	20	
7	Poona	195	163	
8	Sátára	17	121	
9	Sholápur	4	156	
10	Surat	56	4	
11	Panch Mahás	43	505	
12	Ahmedabad	...	316	
	Total ...	861	433	

37. The progress made during the year in the settlement of the old forest areas, which were gazetted under section 34 of the Forest Act in the month of March 1879, will be seen from the following table :—

Class of Forests.		At the commencement of the year areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Areas settled during the year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Remarks.
			Chapter II of the Forest Act.	Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
North Thána ...	Reserved ...	201	127	...	...	...	74	
	Protected...	291	53	...	...	...	238	
South Thána ...	Reserved ...	99	...	...	...	...	99	
	Protected ..	329	...	...	...	...	329	
East Khándesh ...	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
West Khándesh ...	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Násik	Reserved ...	84*	...	...	...	...	...	*This figure was erroneously entered by the Divisional Forest Officer, Násik, in his last year's report and therefore omitted this year.
	Protected...	...	...	...	...	...	...	
Ahmednagar ...	Reserved ...	...	...	...	...	...	...	
	Protected .	...	...	...	...	...	...	
Poona	Reserved ...	192	178	...	5	...	9	
	Protected...	...	...	...	...	...	...	
Sátára	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Sholápur	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Surat	Reserved ...	733	55	...	...	...	678	
	Protected...	...	...	...	...	...	...	
Panch Mahás ...	Reserved ...	43	43	...	...	...	...	
	Protected..	...	...	...	...	...	...	
Total ...		1,972	456	...	5	...	1,427	

38. The old forest areas remaining unsettled in the Thána Collectorate at the close of 1889-90 are to be found in the Umbargaon, Dáhánu and Máhím Ranges of the North Thána Division, and in the Sháhápur and Murbád Ranges of the South Thána Division. The 180 square miles of old forest areas which have been settled during the year in this Collectorate, are in the Vádaand Máhím Ranges. In the Surat Division the remaining unsettled area of old forest is shown to be 678 square miles, which represent the forests of the leased Dángs. In the Poona Division 9 square miles about Ghera Singhad were undergoing settlement at the end of the year.

39. The forest settlement work in the Northern Circle has never been performed in any division by a special officer appointed solely and entirely for this duty only : but in some cases by special officers, who have been appointed for demarcation, meaning the selection, after village to village inspections, of waste, forest and occupied lands for forest reservation with determination of their boundaries, as well as for the settlement of such forest lands which may have been notified under sections 4, 28 and 34 of the Forest Act, or may be notified from time to time under sections 4 and 28 ; in other cases by officers of the Revenue Department, who have undertaken the forest settlement of notified forest lands within the limits of their own revenue jurisdictions in addition to their ordinary Revenue and Magisterial duties. No portion of the costs of such officers is charged in the forest accounts, and no proportional debit of their cost is made against forest settlements. Consequently it is not possible to make such separation between general costs as will give approximately the actual expenditure per square mile upon the forest settlement of particular tracts of forests.

40. In the Thána Collectorate during 1889-90 the forest settlement of 408 square miles, which includes 180 square miles of old forest gazetted under section 34 of the Forest Act, has been accomplished ; and as the total cost of the Forest Settlement Officer and of his establishment in pay, travelling allowances and contingencies for the year has amounted to Rs. 11,357, it may be contended that the cost rate per square mile of forest settlements in the Thána Collectorate during 1889-90 has amounted to Rs. 27·8. But this would not be correct as Mr. Owen, the Special Settlement Officer, has been actively employed for the greater portion of the year in selecting forest areas for reservation with determination of their boundaries, in inquiring into and determining forest rights of alienated villages, in collecting statistics for forest conservancy projects, and on other work of a similar character concurrent with the forest settlement operations. In the like manner in the Khándesh Collectorate, where Mr. Dodgson, C.S., is the Special Forest Settlement and Demarcation Officer, 42 square miles have been finally settled during the year, but no portion of this officer's salary is charged to the forest accounts, and as the cost of this officer's staff, &c., has come to Rs. 4,083, a rate per square mile of Rs. 97·2 would appear ; but Mr. Dodgson also has been employed in many other duties connected with the organization of forests.

41. 862 square miles of forests, which include the 456 square miles of old forests gazetted under section 34 of the Forest Act shown in the statement of paragraph 37, have been finally settled during the year; and as the total expenditure upon forest settlement officers and their establishments, which has been brought to book in the forest accounts, amounts to Rs. 10,452, it may be taken that the cost of forest settlements during the year has amounted to Rs. 12·1 per square mile.

3.—FOREST BOUNDARIES.

42. The work of erecting special forest boundary marks according to the standing orders on the subject, which are printed in the Forest Administration Report of the Northern Circle for the year 1886-87, paragraph 31, was in progress during the year in all the divisions of the Northern Circle, and the following statement will show the details of the work accomplished :—

No.	Division.	Length of boundaries in miles.	Number of Cairns erected.			Cost.			Remarks.
			Large.	Small.	Total.				
1	North Thána ...	36	853	...	853	599	14	0	
2	South Thána ...	119	1,353	*683	2,036	752	9	0	*Includes 601 stones.
3	East Khándesh ...	181	113	†1,385	1,498	675	13	10	†Includes 274 squared stones.
4	West Khándesh...	569	755	2,752	3,507	1,121	9	3	
5	Násik	443	1,896	5,040	6,936	2,753	14	6	
6	Ahmednagar ...	100	368	1,022	1,390	573	11	6	
7	Poona... ...	394	1,359	5,630	6,989	2,257	5	3	
8	Sátára	62	111	1,060	1,171	411	15	3	
9	Sholápur ...	208	783	708	1,491	656	9	6	
10	Surat	39	...	...	...	114	8	0	
11	Panch Mahals ...	118	123	2,404	2,527	676	4	0	
	Total ...	2,269	7,714	20,684	28,398	10,594	2	1	

4.—PRIVILEGES CONCEDED TO VILLAGERS.

43. The Code of privileges, sanctioned for the Khándesh Collectorate under Government Resolution No. 243, dated 11th January 1889, see paragraph 60 of last year's report, was subjected to revision by a Committee of local Revenue and Forest officers, the Collector being President thereof. It was decided to transfer the Nandurbár, Pimpalner and Nizámpur Ranges from the North Tápti to the South Tápti Code, as their geographical positions are south of the river. Other changes, including the addition of two valuable timber trees, the Koshimb (*Schleichera trijuga*) and the Shiwan (*Gmelina arborea*), to the twenty existing reserved trees, and alterations in the wording of certain sections of the Code, were also determined, but the orders of Government had not been passed before the close of the year.

44. No changes have been made in the privileges which had been conceded by Government in favour of local population or of forest villagers, &c., in different forests of the several other divisions of this Circle, from time to time, as these concessions finally stood on the 1st April 1889.

45. In Notification No. 885, dated 3rd February 1890, Government published rules under section 31 of the Forest Act to regulate, among other matters, the privileges which have been conceded in respect of the protected forests of the Dohad and Jhálod Mahals of the Panch Mahals District. Eighteen kinds of trees having been reserved in these forests by notification under section 29 of the Forest Act; every cultivator in a village, which has contributed land to protected forests, may cut unreserved trees in any portion of the protected forests upon a licence to be granted by the local Revenue officers subject to certain conditions stated in the rules. Cattle may be grazed, of resident cultivators, free, and of professional graziers and others on payment of fixed fees upon permits to be granted by local Revenue officers without limitation of the numbers of cattle, with no restriction as to area and of grazing season. Resident cultivators may enjoy, free of charge, privileges—

(*a*) of cutting and taking grass, and branches of the Salida tree for marriage ceremonies;

(*b*) of collecting and taking fruits, gums, dead leaves and other forest produce except timber;

(*c*) of removing head-loads of dead wood of all sorts, including teak;

(*d*) of removing stone, kankar and earth for domestic use and agricultural purposes and not for sale;

subject to the condition that the persons allowed to exercise them do not set fire to any grass or other forest produce in the forests, and do not stack grass or other forest produce in the forest.

46. The local Revenue officers may grant written permission to any resident cultivator to cut and remove free of charge thorns for fencing in such portion of the protected forest as may be determined in consultation with the Forest authorities, and in case of any difference of opinion as to the location of such cuttings in the forest, the question is to be referred to the Collector, whose decision shall be final.

47. The privilege of collecting and removing head-loads of dead wood of the unreserved kinds for their own use and not for purposes of sale, and of collecting minor forest produce, such as honey, gum, lac, wild fruits, &c., excepting hirda and mowra, which have been strictly reserved to Government, has been conceded to the wild tribes in the forest reserves of the Mándvi Range of the Surat Division under Government Resolution No. 6445, dated 31st August 1889, Revenue Department.

48. The expenditure incurred during the year and charged in the forest accounts of the Circle upon the creation and constitution of reserved and protected forests is as under:—

		Rs.	a.	p.
(1).	Salaries and travelling allowances of Forest Settlement Officers not charged against the Forest Department ...	19,342	0	4
(2).	Salaries and travelling allowances of establishment employed under Forest Settlement Officers and charged in the forest accounts, and the contingent expenditure of the latter ...	10,451	8	4
(3).	Demarcation of forest boundaries upon the ground by the construction of special forest boundary marks ...	10,594	2	1
(4).	Compensation for land and rights	13,956	9	6
	Total ...	54,344	4	3

49. The work actually effected during the year, which is represented by the expenditure detailed above, comprises:—

(*a*) the final settlement of 862 square miles at a cost of Rs. 12·1 per square mile;

(*b*) the demarcation of 2,269 miles of forest boundary at Rs. 4·6 per mile; and

(*c*) the purchase of 2,843 acres of land for forests at Rs. 4·9 per acre.

CHAPTER II.

SURVEYS AND WORKING PLANS.

A.—SURVEYS.

50. A portion of the Topographical Survey Party of the Government of India which has been deputed to this Presidency for forest surveys under the superintendence of Colonel Pullan, B. S. C., working under the joint direction and supervision of the Survey and Settlement Commissioner, Bombay, and the Surveyor General of India, has been employed throughout the year in the Northern Circle in the Collectorates of Thána, Násik, Poona and Sátára; and the nature and extent of the work performed by the surveyors will be seen in the following detailed statement:—

No.	District.	Táluka.	Triangulation.	Traverse.	Topographical or Detail Survey.		
					16"	8"	4"
1	North Thána ...	Sálsette	...	34·80	...	...	...
		Bassein	...	298·23	...	...	...
2	South Thána ...	Karjat	43	127·1	...	38·58	...
		Kalyán	50	55·86	...	10·14	...
		Bhiwndi... ...	...	133·54	...	...	...
3	Násik	Málegaon ..	...	...	...	...	...
4	Poona	Sirúr	...	...	3·15	...	...
		Bhimthadi ..	...	...	16·33	...	...
		Khed	12	181·1	0·70	35·76	51·34
		Mával	...	...	...	...	19·00
5	Sátára	Wái	...	...	...	...	...
		Total ...	105	830·63	20·18	84·48	70·34

51. During the months of April and May 1889, the Forest Survey Party in the Northern Circle was working in Karjat Táluka of the Thána Collectorate,

where 38·58 square miles of 8″ survey were completed, and in the Mával Táluka of the Poona District also in which 19 square miles of 4″ survey were accomplished. Tertiary triangulation and traversing, in order to prepare the ground for topographical survey, was likewise carried on during the two months. Early in June field-work was closed, and the establishment returned to Poona, its headquarters station, for the rainy season, when the computation of and setting up traverses surveyed during the field season, the examination and fair-copying of traverses, and the projection of plane table for the next field season were undertaken; 19 original sections of the forests of the Wái Táluka containing an area of 88 square miles on the 4″ scale were mounted, typed and prepared for the use of the Forest Department; and 29 sections comprising forests of portions of Nándgaon and Yeola Tálukás of the Násik Collectorate, and of the Karjat and Kalyán Tálukás of the Thána District were typed and fair-drawn, and were supplied to the Forest Department. From November 1889 to the end of March 1890 one survey party was engaged in the topographical survey of the forests of the Khed Táluka of the Poona District, where the valuable teak forests have been surveyed internally upon the 8″ scale, while the remaining portions of the forests have been done upon the 4″ scale; and two sub-surveyors were deputed to survey, upon the 16″ scale, the bábul forests upon the banks of rivers in the Bhimthadi Táluka of the Poona District.

52. The following gives a comparison between the relative costs per square mile of the forest surveys on the different scales, during the year of this report and the preceding year, according to information supplied by the Superintendent of forest surveys:—

	Cost per Square Mile.			Remarks.
	16″	8″	4″	
1888-89	..	145	65	
1889-90	71	188	133	
	...	43	68	Increased cost during 1889-90.

The Superintendent attributes increased cost per square mile to the inclusion in the accounts of the year under report of charges on account of fair-drawing in arrears from the preceding year. On the other hand, it must be mentioned that no portion of the advance triangulation and traversing has yet been made use of.

53. It is a matter of great difficulty to apportion to each scale of survey, or each branch of the work, such share of the total expenditure of the forest surveys as will show with any reliability its actual cost, as the charge on account of superintendence is such a very heavy item. But experience, the result of careful observation by forest surveying officers, has shown that the cost of detailed surveying upon the 8″ scale may be taken to be not so much as Rs. 10 per square mile greater than of detailed surveying upon the 4″ scale; on the other hand, the difference of cost between the 4″ and the 2″ scales is very considerable. The reason for this being that nearly, if not quite, as much detailed survey work is required to be undertaken for the 4″ as for the 8″ scales, while on the small scale of 2″ there is no room to show anything beyond the main features of the country comprised within the map.

54. Government in their Resolution No. 11 of the 3rd January 1889, in the Revenue Department, sanctioned the 8″ scale for the survey of the valuable teak reserves in the Poona and other districts, the forests of the Thána Collectorate and other forests of real value where large scale maps are required for the purposes of working plans, while the 4″ scale has to be the standard scale for forest surveys. The valuable teak forests of the Thána and of the Deccan Collectorates are not to be found, as a rule, in large solid blocks, but they are represented mainly by long narrow strips on the hill slopes of parallel valleys, and the timber produced is not of large scantling. The interests of local supply, and other local conditions, require the working circles (French series) to be made small, so that simultaneous exploitations may be spread over the whole region, not only to serve the local and export trade to the highest extent possible, but also to

provide labour for forest villagers, as well as pasturage for village cattle within a reasonable distance of their homes. Although a square inch of 4″ map may represent 40 acres, still it must be remembered that coupes are not of uniform shape, in some places the hill side is wide, in others it narrows down to 200 or even 100 yards, and in such case on the 4″ scale the forest would almost illustrate Euclid's definition of a line. Some coupes have necessarily to be not larger than 20 acres. In the Thána Collectorate, where the forests are for the most part uniformly wooded, a mistake of 5 or 6 acres in the area of a compartment may mean Rs. 200 or Rs. 300 in the selling value. However accurate the survey may be on the 4″ scale, it is indisputable that the topographical features cannot be shown in anything like the detail they appear upon a map four times this size, *viz.*, on the 8″ scale, and for laying out coupes on the ground, and for the protection of their boundaries, and for testing and examining the position and areas of the compartments, in fact for all purposes of conservancy and works, it is clearly necessary to have a correct map, on a sufficiently large scale, to enable a supervising officer to locate a given point without having recourse to instruments: experience has shown that boundaries of compartments may, through carelessness or fraud, be marked off on the ground not in accordance with the lines indicated upon the map, and that boundary lines are sometimes fraudulently altered, such errors and deviations are more liable to occur, and are much more likely to escape detection, with a small map of the 4″ scale than with the larger map of 8″: and in the Thána Collectorate alone a loss of revenue of thousands of rupees may result. It may be claimed of the 8″ scale that it acts as security against errors, carelessness and fraud in the special circumstances of the forests of Western India to such an extent as more than compensate for the larger cost of the larger scale map. Another valuable recommendation in favour of the 8″ scale for the forests is that it is the standard scale of the Bombay Revenue Survey, and as a forest block is made up of the forest lands of different villages, it goes without saying, that the importance of having one and the same scale for the maps of the villages which have contributed to the forest block and of the latter itself must be great for administrative purposes.

55. The river side bábul reserves in the Deccan are long narrow strips covering the banks of the rivers; they are seldom over 100 yards wide, and are often barely 10 yards, and much of their area is below flood level, and they are annually swept three or four times by the river when it comes rolling down in heavy flood from the Western Ghâts, 50 to 100 miles off: to make fellings over large areas under these conditions would be madness, for the result would be erosion to an exaggerated degree. Grazing and grass cutting for local supply and for trade are important factors in the treatment of these forest lands, which have to be taken into account, for village cattle must be provided with pasturage, and the revenue obtained therefrom amounts often to from Rs. 3 to 4 per acre, per annum, while it averages Rs. 2. In view of the determining factors the system of working adopted is clean felling and subsequent plantation *in very small annual coupes, never exceeding five acres.* Thus the exposure to erosion is limited, and the power of the river is broken, while the largest possible area legitimately available is provided for the production of fodder and grazing; the smallness of the compartments and of the working circle, for the forests are in patches, demand maps upon an exceptionally large scale, while the detailed survey of these properties is so easy, there being no physical difficulties, that the relative cost between a large and a small scale is inappreciable; consequent to all these reasons Government have, in their Resolution No. 2754 of the 12th April 1889, sanctioned that the maps of the bábul reserves in the Deccan shall be produced upon the scale of 16″ equal to one mile.

56. A Sub-Division Forest Officer, who has been engaged continuously in the Thána District from the time the new system of working was introduced, in marking out coupes upon the ground and in preparing them for exploitation and in supervising the operations of the contractors or purchasers, reports his opinion upon the different values of the forest maps of the two scales, from actual experience in the use of them in carrying out his work, in the following words:—

"I am fully in accord with your opinion that maps on the 4″ scale are quite inadequate for the purpose of elaborating working plans of forests containing teak and other valuable timber, which have in view of local circumstances to be exploited by the location of coupes over a great many small areas, and where the *area* forms the basis of valuation of the

standing stock, which is sold on the system of contract cuttings. I have had much experience in Thána in the use of 4″ topographical sheets for field-work in laying out upon the ground coupes as delineated on such sheets, from which I am able to aver that for purposes of accuracy this sort of work is a mere make-shift. To find out upon the ground such a thing as a minor nulla which may be shown on this map is many a times a fruitless task; distances taken off by scale, when measured upon the ground, often give incorrect results, and the reason of this is obvious, for so small an error as a tenth of an inch in lineal measurement upon the map, means a difference upon the ground of as much as 132′, that is, a difference in area of 4 acres, one way or the other. Apart from this defect it can also be shown that the working with the 4″ maps is in the end not so cheap as the ratio of actual costs on survey operations for the 4″ and the 8″ scales would lead us to believe; at present coupes demarcated upon the ground from the 4″ maps have to be actually re-surveyed by the chain and cross staff by specially paid surveyors of the Working Plans Branch. Taking a surveyor's pay at Rs. 30 per mensem, and the expenditure on labourers he has to employ to help him at an equal sum, and the outturn of work for that period at half square mile (about 6 coupes of 50 acres each), there has to be incurred a cost of Rs. 120 per square mile, when, therefore, this item is taken into consideration, the costs on surveys on the 4″ and the 8″ scales would compare per square mile as Rs. 185*, Rs. 187 instead of as Rs. 65, Rs. 187 respectively.

* 65+120.

The resurvey of the coupes mentioned will no longer be required when the 8″ maps are available, the setting out of the coupes with their help can be carried out very expeditiously and the coupe areas as taken out by scale from the maps can, for all practical purposes be accepted with perfect reliability. With some teaching and practice Range Forest Officers, and intelligent members of the protective staff will be able to lay out coupes upon the ground as marked on maps of this large scale, and this will obviate the necessity of having a special staff of surveyors. Another great advantage would be that supervising officers will have great facility in checking the boundaries of coupes with the 8″ maps in hand."

(*B*).—WORKING PLANS.

57. The operations of the Working Plans Branch were practically confined to the two forest divisions of Thána during the year under the direction of Mr. T. B. Fry, Deputy Conservator of Forests, and the work was conducted on the lines already described in previous reports. The following is the progress statement.—

No.	Range.	Total Area.	Number of Blocks per Range.	Number of Sub-blocks laid out.	Number of Compartments laid out in 1889-90.	Average Area of a normal Compartment.	Remarks.
	North Thána Division.	Acres.					
1	Máhím	81,000	41	...	42	49	
2	Bassein	52,255	23	2	39	56	
3	Sálsette	14,641	11	...	10	36	
4	Váda	80,320	28	...	12	71	
5	Dáhánu	70,884	42	...	62	42	
6	Umbargaon ...	35,889	12	...	19	74	
	Total ...	334,989	157	2	184	328	
	South Thána Division.						
1	Kalyán	32,497	17	...	15	47	
2	Murbád	66,642	20	...	15	83	
3	Karjat	51,954	20	...	36	64	
4	Khálápur						
5	Bhiwndi	39,803	20	20	28	49	
6	Mokháda	47,540	16	...	22	74	
7	Khardi	157,812	53	...	49	74	
8	Sháhápur						
	Total ...	396,248	146	20	165	391	
	Grand Total ...	731,237	303	22	349	719	

58. In 22 forest blocks out of the 303, the first ten compartments have been marked off on the ground and demarcated with special cairns; these are shown as sub-blocks in the statement. During the year single coupes for next year's working were also demarcated in the remaining 281 blocks. A good deal of map-work in the shape of mounting and colouring to show forest reservations and the differentiation into blocks was executed during the rainy season. Mr. Fry delivered as usual a series of lectures in the College of Science, Poona, for the Forest Class students.

59. In paragraph 12 of their Resolution No. 3012, dated 2nd May 1890, on the Forest Administration Reports of the Bombay Presidency for 1888-89, Government have expressed their opinion that the Conservator should be in a position to present in future reports valuable information as to the capabilities of the Thána forests, and whether they have hitherto been under or overworked. No Forest officer who has seen the forests of the Thána Collectorate can but come to one conclusion regarding them, *viz.*, that the larger portion of them has been consistently overworked for many years before the introduction of regular working, *under the exercise of admitted privileges* of ráb and dead-wood, by the population of the country, carried on contemporaneously with exploitation for timber, &c., and with no care whatever for reproduction. The privileges have been restricted only by the physical power or convenience of the concessionaries to cut and take. Fires have prevailed and swept the forests from end to end, a considerable portion of the forests may have not been burnt in any one year, but a very insignificant portion of them has escaped from burning over a series of years. Young saplings have been ruthlessly cut over in all directions, year after year, by villagers to supply ráb material and firewood during the rains, to forest villagers, as well as outside villagers, and to be sold at bandars and railway stations as firewood to feed the export trade. Dead-wood has been manufactured wholesale for sale to dealers, who set up timber depôts at bandars and railway stations, and invited forest villagers and others to bring dead-wood to them, which they bought and exported, such dead-wood being mostly manufactured from young and maturing timber. Cattle have been allowed to graze everywhere. The trees which have been felled departmentally have not reproduced good shoots, because no sooner did the latter appear than they came within the scope of privileges and were in many cases beheaded or barked or cut down. The natural germination of seeds has produced seedlings only to be eaten by cattle or trodden under foot, for there has been no closure of sufficiently long duration. Thus the forests of the Thána District, except in out-of-the-way parts of the district, such as the Mokháda Petha, the inland villages of the Dáhánu Táluka, and in some of the small patches of the old Imperial Reserves, have been steadily deteriorating and gradually disappearing, although the outturn of timber removed on behalf of Government has been much less than it might have been, or ought to be, in proportion to the forest area, and has been a long way short of the capabilities of the forest region of the Thána Collectorate.

60. Before the introduction of the present working plans system nearly all exploitation was irregular, and no record was kept, or could be kept, of the yield, for the privilege-holders in their exploitations were not confined to any defined area determined by the capabilities of the forests, nor to any stated seasons. They went into the forests when they liked, they went where they liked, and they cut and took what they liked, so long as they openly confined themselves to the kind of trees allowed to privilege-holders, and did not act contrary to the law; and they also cut and took illicitly what they were not entitled to cut and take as often as they might think the risk of detection and of conviction and punishment was either remote or not sufficiently deterrent.

61. Until considerable progress had been made in the settlement and constitution of the forests of the Thána Collectorate under the Forest law, and until both executive and protective establishments had been increased, and also until a special working plans division had been formed, it was not possible to bring these forests under any systematic working which would provide for the exploitation of timber and other forest produce up to a volume closely approximating to, if not quite reaching, their full capabilities, and would at the same time provide remedies for the overworking and depletion going on actively in many directions.

62. The working plans of the forests of the Thána Collectorate have been arranged upon principles which will give effect to the will of the owner, or in other words will provide, as far as it is possible so to do, for the exercise by the concessionaries of those privileges which Government have ordered the people of forest villages and of other villages in the Thána District are to be allowed to enjoy. The problem set to the Forest officers to solve was to arrange the working plans of the forests upon the bases:

(*a*) that local supply must be served by allowing to forest villagers and others as much ráb material, in the shape of tree-loppings, leaves, &c., as can be supplied; by providing grazing for village cattle; by providing labour and occupation in forests: and all these were to be given within a reasonable distance of in no case extending 4 miles beyond a forest-villager's home;

(*b*) that local trade must be encouraged and developed;

(*c*) that the revenue legitimately obtainable from the forests should be realised;

(*d*) that forests must be maintained: their capabilities being preserved and enhanced.

63. A forest, it should be remembered, can only give a sustained yield of certain timbers or other articles of produce in certain relative proportions. If the forest is overworked in one kind the proceeding will reflect upon another, and eventually react upon the produce overworked; for example, if the forests are overworked for ráb material the outturn of timber and firewood will decrease, and the yield of ráb material will in time decrease also; so that there will be a smash up, or an exhaustion all round, in time.

64. In order then to comply with the conditions imposed by Government it was necessary:

i. to have the forest-blocks or working circles, French series, of restricted areas, so that the 4 miles maximum distance should be observed;

ii. to have a large number of forest blocks. There are 1,331 forest villages in the Thána Collectorate, their cultivation areas occupying the plains, while their forest areas, about 1,250 square miles in aggregate, covering the hill ranges which are on the sides of the valleys and form the water-sheds, or divides of the drainage;

iii. to have a large number of coupes in order that simultaneous exploitations should be spread over the whole forest region of the Thána District;

iv. to determine a revolution which would give for the market the kind of timber in general demand, *viz.*, small timber, firewood and charcoal; which would allow selected trees to mature; which would provide as much branches with leaves attaching to them for ráb as can be supplied; which would provide a sufficiency of grazing for village cattle; and which would at the same time keep the hill sides so well protected by tree-growth as to ensure the impounding of a torrential rainfall and the prevention of its off-flow in turbulent rush on to the rice fields in the cultivation areas below, with the removal of soil and other detritus, to impoverish the land and work other disastrous consequences.

65. Careful examination of the timber growth in the forests of the Thána Collectorate, undertaken by Mr. T. B. Fry, Divisional Forest Officer, Working Plans, and of the timber brought to private yards and departmental depôts, having shown that a rotation of forty years was the best calculated to serve *all* the interests concerned, a revolution of forty years has consequently been fixed, and the exploitable portions of the working circles, or forest-blocks, are sub-divided into forty compartments, each of which may become a coupe of the year in turn; a few seed-bearers and other maturing seedling trees of valuable species are reserved, and the remainder of the trees are sold on foot, to be felled and removed between the close of the rainy season and the end of the following April. If the coupes were to be expanded and reduced in number, they could not be worked

in one season, owing to their greater size, and to the difficulty of transporting labour, or of inducing labour to come from a long distance, the consequence would be that the forest villagers, who would not leave their homes, would prey upon the neighbouring forests for subsistence, and thus the timber prospects of future years would suffer, and forest crime and repression would be on the increase, and there would be complaints and grievances loud and long of unsatisfied local requirements; and if the timber operations of a coupe were to be extended over two or more seasons, it would be at the expense of reproduction, both by seed and shoot, in addition to the evils aforementioned. As a rule three-fourths of the compartments of a working circle are to be opened to the grazing of cattle, and ten compartments are to be closed against man and beast at one time, but in particular cases where a longer closure may be found to be required, a larger proportion of a working circle may at one time be protected against grazing or exercise of privileges.

66. It may be contended that under a shorter rotation more râb material could be provided, but any reduction in the length of the revolution will necessarily cause the expansion of the coupes, unless the number of working circles is very largely increased, which would add very considerably to the cost of supervision; and although it might augment the supply of ráb materials for a time, still it will very sensibly diminish the yield of timber and firewood, which are equally important if not more important considerations, and it will reduce the revenue derived from the forests to a very low figure, and ultimately it will reduce the supply of ráb material itself. Indeed for the service of agriculture a continuously sufficient supply of firewood is possibly of more real importance than of ráb material, for if the former were to fall short a substitute will be found as has been resorted to elsewhere, in cow dung, which is at present the mainstay for manure of rice fields in the Thána Collectorate.

67. Since the introduction of the present system of working the Thána forests, the forest revenues have steadily risen, and may be reasonably expected to rise to a much higher figure than they have yet reached, for coupes sell well, private enterprize competing to provide for local supply, and the Thána forests are a mine of wealth, the capital value of which will continue to augment. At the same time the wholesale looting of the forests which used to prevail is dying out on all sides, because that portion of the population which lived on the forests in felling, carrying and selling timber illicitly, now finds legitimate occupation on wages in the coupes all the working season round; and it has been reported to Government by their highest officers that there are practically no complaints on the part of the people of inability to obtain the satisfaction of their reasonable demands upon the forests. However even under this system the forests of Thána are in danger of being overworked by promiscuous fellings allowed outside coupes to the extent:

(a) of the trees lopped and beheaded for ráb, or ringed or cut over for dead wood removal, in exercise of conceded privileges, supplemented by the amount of mischief done by intentional firing of the forests in order to ensure a comfortable and convenient enjoyment of such admitted privileges, in all and any portion of the forests included within the working circles, but outside the coupes which represent one-fortieth of whole area of the forest region;

(b) of the damages done by fire and cattle to reproduction, more particularly in the "closed-forests," which consist of compartments which have served within the past ten years as coupes. The unlicensed and unlimited privilege of shikár is a fruitful source of such fires.

68. The condition of the Thána forests at the end of the revolution will depend entirely upon how the closed forests are treated now; while the forest revenues and the satisfaction of local wants between the present time and the end of the current revolution will depend greatly upon the interim treatment of the compartments which have not yet become coupes. The policy in past years had been to decrease the ráb-producing sources and concurrently to increase the ráb-consuming area, but under the present working plans the limits of the forest areas have been fixed once for all, and the yield of ráb material, which is after all the most active agent of forest depletion, has been defined within these limits. If the closed compartments are not effectively protected against man and beast,

and if promiscuous exploitation of timber is allowed to continue from forest areas beyond, or outside of, the annual coupes within the forest blocks, and if the shikári is allowed to roam in unregulated freedom wherever he may list, firing the forests all round him, then the maintenance of the Thána forests and the enhancement of their productive powers will continue beyond human attainment.

The Forest Department having provided the remedy for the overworking of the forests in past years by privilege-holders, it remains now for the Revenue officers to induce the rayats to take and utilise all the ráb material that is available from the coupes and to restrain them from lopping, beheading and felling any trees for ráb in any portion of the forests of a working circle outside the limits of the coupes.

69. Taking the average coupe at 50 acres a revolution of forty years gives 2,000 acres as the minimum size of the working circle, and thus the 1,250 square miles of the forests in the Thána Collectorate might be divisible into 400 working circles with 400 coupes spread over them as centres of labour and of local supply annually. But as a matter of fact the normal area of the working circle may be put at somewhat exceeding 2,000 acres, owing to the parts of the forests which are not worked but are preserved for climatic and other reasons, and also to the forest blocks in parts of the Dáhánu, Váda, Máhím and Mokháda Ranges in the wilder portion of the Thána District being comparatively large. The circumstances of the Thána Collectorate, however, are exceptional. In some other forest tracts the working circles have, through the force of local conditions which affect them, for example the riparian bábul forests on the Deccan, to be of even much smaller size than the working circles of the Thána Collectorate, but in the general run of the forests of the Northern Circle it would be neither convenient nor desirable to form such small units of working as of 1,000 or 2,000 acres. Take for example the Sátpuda forests, which cover many hundred square miles, the leased forests of the Dángs, the moist forests bordering the Syhádri range of Western Ghats, and the forests in other parts of the country where forest villages are very distant one from the other, and the population dependent upon the forests is sparse. On the other hand, where the forests and cultivation areas intermingle, so that the former consist mainly of patches and long streaks on hill sides and water-sheds, where the density of population is very great, in places amounting to even 800 to the square mile, and the demands upon the forests for pasturage and other wants are continuous and considerable, a detailed system of management is imperative, if the forests are to be maintained, and are to occupy their proper position in the harmony of the general administration of the country. Where local circumstances point to the frequency of forest-fires, and the difficulty of forest protection, in such places small and many coupes are of advantage upon the principle of not carrying all one's eggs in one basket.

70. Taking the entire reserved forest area of the Northern Circle at 4,765,585 acres, at which it stood when the year of this report opened, and adopting even so small a forest block as 2,000 acres to be the normal size of the working circle, there would be altogether 2,382 in the Northern Circle. The number may at first sight appear to be large, but when it is considered what very important interests are concerned in the preservation of the forests, and what heavy demands are made upon the forests for supplies for a teeming population, it may be urged, not unreasonably, that 2,382 centres of forest labour and local supply, and timber trade, distributed over 7,500 square miles of reserved forests, which are scattered over a territorial area of 51,501 square miles of country, are none too many. When other considerations than of revenue exercise the more potential influence upon the selection of a plan of forest management, as for example the claims of the people, and of forest villagers more particularly, upon the forests for the supply of their requirements in forest produce, in forest grazing, &c., a system of detailed management cannot well be condemned upon the grounds that it may not in this country be productive at present of so considerable a revenue, per acre, as is obtainable under the same system in Europe or elsewhere. It must be remembered that a broader system of management will not provide, if at all, certainly not to the same extent, all that is required to be provided, and therefore, will not satisfy the will of the proprietor, and will not be so conducive to the maintenance and improvement of the capital. Further

it may be urged that, the forest revenues are expanding by leaps and bounds, and that they will continue to increase, and that whereas in the forests of the Northern Circle a very large proportion of the area consists of forest lands under reboisement, a revenue from fodder grass and grazing being the chief income derivable from it, the distribution of the total forest revenues of the circle over the total forest area, in order to arrive at an average rate of revenue per acre, gives no indication whatever of the revenue which the timber-covered and timber-exploitable forests of the circle are capable of yielding, and are now returning.

71. The expenditure which has been incurred during the year upon surveys and working plans amounts to Rs. 58,040-15-4, which sum is made up of :—

Rs. 35,181-7-11 cost of the forest surveys.

Rs. 17,159-14-0 cost of Working Plans Division.

Rs. 5,699-9 5 cost of surveyors attached to the Divisional Forest Officers for preparing maps, laying out compartments in the forests, defining forest boundaries on the ground, &c.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—ESTABLISHMENTS.

72. The Controlling Staff of the Forest Department, Northern Circle, which consists of 1 Conservator of Forests, and 13 Deputy and Assistant Conservators of Forests, remained unchanged during the year.

73. Mr. Gleadow, Deputy Conservator of Forests, 4th grade, who had proceeded on furlough to Europe for 18 months from the 15th April 1888, returned to India, and was posted to North Thána as Divisional Forest Officer from 1st November 1889.

74. Mr. Hornidge, whose services had been placed at the disposal of the Government of India for employment in the Central Provinces, was retransferred to the Bombay Forest Department, and posted to the Sholápur Division, of which he assumed charge on the 18th October 1889.

75. Mr. Mainwaring, Deputy Conservator of Forests, 3rd grade, and Divisional Forest Officer, Ahmednagar, proceeded on furlough to Europe for one year from 5th November 1889, and Mr. Hexton, Deputy Conservator of Forests, 1st grade, and Divisional Forest Officer, Surat, availed himself of privilege leave for 2 months and 18 days from 31st January 1890.

76. The following officers also enjoyed privilege leave during the year for periods stated against them :—

Mr. R. S. F. Fagan, Deputy Conservator of Forests, 4th grade, and Divisional Forest Officer, West Khándesh, from 25th August to 24th September 1889.

Mr. C. Greatheed, Deputy Conservator of Forests, 3rd grade, and Divisional Forest Officer, Sátára, from 12th September to 26th October 1889.

77. The numerical strength and constitution of Sub-Assistant Conservators attached to the Northern Circle, underwent no change during the year. Mr. Ganesh Krishna Shaháne, who was under suspension at the close of last year, was dismissed the service under orders contained in Government Resolution No. 5320, dated 25th July 1889, for gross neglect of duty, carelessness and insubordination, for absenting himself from his charge without leave, and for several other grave charges of misconduct.

78. The sanctioned strength of permanent protective establishment, the monthly cost of which amounts to Rs. 21,503, in the several divisions of the Northern Circle, is exhibited in the following table :—

Number.	Division.	Number of Rangers.	Range Forest Officers. Rangers. Rs. 100.	Rs. 80.	Rs. 60.	Rs. 50.	Foresters. Rs. 40.	Rs. 30.	Rs. 20.	Forest Guards. Rs. 15.	Rs. 12.	Rs. 10.	Rs. 9.	Rs. 8.	Rs. 7.	Remarks.
1	North Thána	6								6	14	25	25	70	80	The pay of the Rangers and Foresters is personal and the men are transferred from one range to another, as the exigencies of the service may require. Therefore the number of appointments in each grade is shown in lump for the whole Circle.
2	South Thána	8								8	14	25	23	70	115	
3	East Khándesh ..	13								8	16	20	20	40	75	
4	West Khándesh ..	10								7	14	18	18	50	102	
5	Nasik	14								10	20	25	26	50	158	
6	Ahmednagar	11	3	4	6	12	20	30	30	6	12	22	22	50	85	
7	Poona	11								9	17	26	25	60	120	
8	Sátára	14								9	18	24	22	57	102	
9	Sholápur	7								3	6	11	8	16	68	
10	Surat	6								2	4	4	6	18	27	
11	Panch Mahals ..	5								2	5	10	10	30	48	
	Total ..	105	3	4	6	12	20	30	30	70	140	210	205	511	980	

79. In the Násik and Poona Divisions a temporary establishment of 6 and 45 Forest Guards, respectively, was employed in addition to the above.

80. Government in their Resolution No. 4832, dated 6th July 1889, in the Revenue Department, disposed of the proposals, which, in obedience to the orders of Government, had been submitted by the Conservators of Forests, for a reorganization of the subordinate Forest staff, of which mention appears in paragraph 86 of last year's report, by directing a committee to be composed of the 3 Commissioners of Divisions, the 2 Conservators of Forests, Northern and Southern Circles, Dr. T. Cooke, Principal of the College of Science, Poona, and Mr. G. W. Vidal, C. S., late President of the Forest Commission, to assemble at Poona during the rains, in order to draw up a comprehensive scheme for the thorough reorganization of the subordinate forest establishments. This committee accordingly met during the rains of the year under report, and after careful and lengthy discussion and consideration submitted a project, upon which no orders had been issued before the close of the year.

81. The sanctioned complement of the office establishment, in which no change has been made during the year, is exhibited, with its monthly cost, in the statement given below :—

No.	Division.	Number and Gradation. Clerks. Rs. 100	Rs. 80	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 15	Peons. Rs. 10	Rs. 9	Rs. 8	Monthly Cost.
													Rs.
1	Direction	1	1	1	2	2	2	2	...	1	1	5	579
2	North Thána	...	...	...	1	1	1	1	2	...	1	3	203
3	South do.	...	...	...	1	1	1	1	2	...	1	3	203
4	East Khándesh ...	...	...	...	1	...	1	2	2	...	1	3	183
5	West do. ...	...	...	...	1	...	1	2	2	...	1	3	183
6	Násik	...	...	...	1	...	1	2	2	...	1	3	183
7	Ahmednagar	...	...	...	...	1	1	2	2	...	1	3	173
8	Poona	...	...	...	1	...	1	2	2	...	1	3	183
9	Sátára	...	...	...	1	...	1	2	2	...	1	3	183
10	Sholápur	...	...	...	...	1	1	2	1	...	1	3	158
11	Surat	...	...	...	1	...	1	2	2	...	1	3	183
12	Panch Mahals	...	...	...	...	1	1	2	1	...	1	3	158
13	7 Sub-Assistant Conservators' Offices ...	...	...	...	...	...	...	...	7	..	...	14	217
	Total ...	1	1	1	10	7	13	22	27	1	12	52	2,789

82. The total expenditure upon forest establishments during the year, has amounted to Rs. 4,55,835-3-6 under the following budget sub-heads :—

	Rs.	a.	p.
B. *I a*—Conservator's salary	18,000	0	0
B. *II. a.*—Conservator's travelling allowance	2,400	0	0
B. *I. b.*—Superior officers' salary	1,02,417	4	7
B. *II. b.*—Superior officers' travelling allowance ...	25,378	12	4
B. *I. c.*—Subordinate officers' protective establishments' salary.	2,48,537	15	2
B. *II. c.*—Subordinate ditto travelling allowance ...	14,326	7	1
B. *I. d.*—Office establishments' salary	33,376	3	5
B. *II. d.*—Office ditto travelling allowance	11,398	8	11
Total ...	4,55,835	3	6

2.—GENERAL PROTECTION AND BREACHES OF THE FOREST LAW.

83. A comparative statement showing the cases tried before Magistrates for breaches of forest law during the year, and the one preceding it, is given below :—

No.	Division.	1888-89.		1889-90.		Percentage of failures.	
		Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1888-89.	1889-90.
1	North Thána	72	34	106	22	47·2	20·7
2	South do.	209	51	208	34	24·4	16·3
3	East Khándesh	48	15	371	22	31·2	5·9
4	West do.	126	27	186	14	21·4	7·5
5	Násik	48	5	105	19	10·4	18·0
6	Ahmednagar	53	15	59	18	28·3	30·5
7	Poona	279	47	216	57	16·8	26·3
8	Sátára	44	17	27	13	38·6	48·1
9	Sholápur	101	34	118	45	33·6	38·1
10	Surat	9	...	8	2	...	25·0
11	Panch Maháls	42	10	37	7	23·8	18·9
	Total ...	1,031	255	1,441	253	24·7	17·5

84. At the close of last year 108 cases of forest offences were awaiting trial, and during the year 1,432 new cases were presented : thus making a total of 1,540 cases in all. Of these, 1,441 cases were disposed of, as shown above, leaving 99 cases pending at the close of the year in different divisions, as given below :—

No.	Division.	Number of Cases.
1	South Thána	6
2	East Khándesh	9
3	West do.	5
4	Násik	18
5	Ahmednagar	14
6	Poona...	27
7	Sátára	1
8	Sholápur	16
9	Surat	2
10	Panch Maháls	1
	Total ...	99

85. The general protection of the forests may be considered to have been satisfactory. Seeing that the areas under watch and guard by forest subordinates, in the Northern Circle, extend over 8,600 square miles and 597 acres of reserved and protected forest, and also include wide stretches of cultivation areas occupied under the survey settlement, the reserved trees growing upon which are the property of Government, it cannot be urged with reason, that 1,432 cases brought up before the Magistrates during 12 months, points to undue severity, or a too hasty resort to the higher criminal courts. The percentage

of failures of the cases presented for trial during the year, has been comparatively low, which may be taken to indicate that prosecutions have been conducted with care, and have not been instituted without proper cause, and also that the supervision exercised by Divisional Forest officers has been searching and detailed. In the two Thána, the two Khándesh and the Panch Mahál Divisions the best results appear; and they reflect credit upon Messrs. Desái, Fagan, Gleadow, Millett, Keys, Divisional Forest officers and the Sub-Assistant Conservators and the Range Forest officers under them. In the Deccan divisions the proportion of failures has increased, and it is difficult to assign a cause for this. At the same time it must be mentioned that the privileges of shikár and of carrying cutting instruments into the forests for collecting ráb, thorns and fire-wood, lead to much mischief and render the detection of forest offenders a matter of very great difficulty. The exemption of timber and other produce brought from occupied and other private lands from the operation of the rules under Section 41 of the Forest Act affects prejudicially, as has been reported often, the protection of the State forests and of State timber upon private holdings, but the newly amended Forest Act will no doubt supply the remedy.

86. A classification of the 1,432 new cases prosecuted during the year is given below, as prescribed by the Forest Department Code :—

No.	Division.	Character of Offences.					Remarks.
		Injury to Forests by Fire.	Unauthorised Fellings or appropriation of Wood and minor Forest Produce.	Grazing without Permission or in Tracts where Grazing is prohibited.	Other Offences.	Total.	
1	North Thána ...	1	102	.....	3	106	
2	South Thána ..	2	150	1	47	200	
3	East Khándesh ..	8	107	8	255	378	
4	West Khándesh...	27	38	3	103	171	
5	Násik	3	45	6	55	109	
6	Ahmednagar ..	...	23	37	7	67	
7	Poona	1	76	105	28	210	
8	Sátára	...	12	9	6	27	
9	Sholápur ..	...	11	86	19	116	
10	Surat	...	9	.....	1	10	
11	Panch Mahál ...	...	37	1	...	38	
	Total ..	42	610	256	524	1,432	

87. The number of cases treated in accordance with Government Resolution No. 7844, dated 3rd October 1884, in the Revenue Department, by Assistant Collectors, under Section 43 of the Land Revenue Code, in the protected forests of the two Thána divisions, appears in the following table, as compared with that of the previous year :—

Forest Division.	1888-89.					1889-90.					Remarks.
	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	
		Rs. a. p.			Rs. a. p.		Rs. a. p.			Rs. a. p.	
North Thána...	42	275 15 0	...	42	275 15 0	29	119 14 1	...	29	161 2 1	
South do. ...	61	89 6 9	...	61	118 12 3	58	245 9 10	...	58	423 10 4	
Total ...	103	365 5 9	...	103	394 11 3	87	365 7 11	...	87	584 12 5	

88. A comparative statement showing the number of cases compounded under Section 67 of the Forest Act, in the several divisions of the Northern Circle, is given below, in accordance with the instructions contained in Government Resolution No. 3527, dated 2nd May 1884, in the Revenue Department :—

No.	Division.	Taken into Court.		Compounded under Section 67 of the Forest Act.		Total Number of Cases.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
1	North Thána	65	106	38	46	103	152
2	South Thána	204	208	306	211	510	419
3	East Khándesh	42	371	280	446	322	817
4	West Khándesh	107	186	454	492	561	678
5	Násik	52	165	1,137	852	1,189	957
6	Ahmednagar	50	59	2,199	2,157	2,249	2,216
7	Poona	312	216	439	742	751	958
8	Sátára	37	27	250	280	287	307
9	Sholápur	109	118	952	1,165	1,061	1,283
10	Surat	7	8	17	26	24	34
11	Panch Mahálś	42	37	82	68	124	105
	Total ...	1,027	1,441	6,154	6,485	7,181	7,926

89. The large number of cases compromised in almost all the divisions tends to show that a spirit of conciliation has actuated Forest officers in dealing with forest offenders. In the above-ghâts divisions grazing in the closed compartments is the prevailing crime, and a very natural one it is, when it is remembered that no such grass is to be found elsewhere over the country, when the season ages, as is to be seen within the closed compartments of the forests, in the Deccan, which are under treatment for reboisement. The sight of luxuriant pasturage offers an irresistible attraction to hungry cattle and to owners of lean kine, and more particularly to wandering graziers. Trivial offences of other kinds, which are not committed of set purpose and in defiance of the law, are invariably treated under Section 67. This system of disposal of trivial offences works, on the whole, satisfactorily, and although it may produce a less deterrent effect than a criminal prosecution does, still there can be no doubt that it tends to improve forest protection, to avoid derogating from the self-respect of such forest offenders as do not belong to the criminal classes, while at the same time it does not take Forest officials away from their other duties of conservancy and works to devote hours and days to the conduct of criminal prosecutions in distant magisterial courts.

90. The following statement shows the amounts realised from cases which were compounded under Section 67 of the Act in the several divisions of the Northern Circle during the year, as directed in Government Resolution No. 8738, dated 24th December 1887, in the Revenue Department :—

No.	Division.	Amount.		
		Rs.	a.	p.
1	North Thána... ...	626	11	0
2	South do.	1,202	1	6
3	East Khándesh ...	1,842	0	9
4	West do. ...	2,091	14	3
5	Násik...	3,366	14	8
6	Ahmednagar	3,271	7	11
7	Poona...	2,768	6	5
8	Sátára	373	3	1
9	Sholápur	1,294	15	11
10	Surat	145	9	0
11	Panch Mahálś ...	91	10	7
	Total ...	17,074	15	1

Where illicit grazing, as in the above-ghâts divisions, has been the predominating offence compounded, there the amount of recoveries has been rateably lower; where timber has been cut or stolen the value thereof has caused the damages to be comparatively large.

91. The following statement exhibits the number of cattle of different kinds impounded in the several divisions of the Northern Circle during the year, under section 69 of the Forest Act, for trespassing in forest areas set apart for plantations, or in portions of forest reservations closed against the grazing of cattle:—

No.	Division.	Cows and Bullocks.	Buffaloes.	Camels.	Horses.	Asses.	Sheep.	Goats.	Total.
1	North Thána	884	142	...	...	...	215	...	1,241
2	South Thána	488	225	...	...	1	239	...	953
3	East Khándesh ...	4,499	704	...	5	...	2,097	3,633	10,938
4	West Khándesh ...	9,593	1,030	5	69	1	3,321	2,824	16,843
5	Násik	5,406	217	...	40	7	2,763	9,455	17,888
6	Ahmednagar	32,318	1,809	1	399	114	27,680	14,048	76,369
7	Poona	10,076	860	...	122	75	12,927	7,531	31,591
8	Sátára	5,085	644	4	68	78	7,209	1,800	14,888
9	Sholápur	14,761	1,355	1	160	235	7,304	1,678	25,494
10	Surat	66	9	...	...	...	...	40	115
11	Panch Mahâls	69	49	...	7	...	304	617	1,046
	Total ...	83,245	7,044	11	870	511	64,059	41,626	1,97,366

92. The total of number of cattle impounded during the year is slightly less than that of the previous year, which was 200,615. In the North Thána Division Mr. Gleadow states that great difficulty is experienced by the scarcity of pounds, very few villages being furnished with these useful institutions, for examples in the Máhím Táluka with its 181 forest villages there are only 3 pounds, in the Dáhánu Táluka where there are 202 forest villages, there are only 6 pounds, in Váda with 135 forest villages but 3 pounds; consequently cattle in order to be placed into a pound have, in the majority of cases, to be driven from 10 or 15 miles, and in such circumstances the owners of cattle find sufficient time to rescue their animals from the Forest Guard who may be taking them to the pound.

93. In the Ahmednagar Division, it will be seen, that there is a decrease of nearly 10,000 impoundings, as compared with the previous year; however 76,369 may appear at first to be a large number to be impounded in a single division, but more than half consists of sheep and goats. Government, and the Government of India also, very rightly lay strong stress upon a rational treatment of grazing in forests which will be to the interests of forestry as well as of pasturage; and in this view they urge the desirability:

(*a*) of limiting the number of cattle,

(*b*) of fixing a season when grazing will be allowed,

(*c*) of closing forests in rotation for a sufficiently long period.

94. It goes without saying that no system of forestry can have free course and be satisfactory in its most vital points if cattle are allowed into the portions of the forests which are closed for reproduction, natural or artificial; that no regulation of grazing in the forests upon the lines given by the Government of India can be carried out when cattle are permitted to graze in open forests in excess of the number prescribed according to the defensible character of the forest vegetation as well as the capabilities of grazing; that no season can be enforced when cattle will graze in defiance of prescription at all, and any, decided times; that closure becomes a farce and a bye-word when it is freely violated.

95. The closed compartments of the Deccan forest lands, which are chiefly forests under regeneration, present to view the most attractive pasturage in the whole country side, and no wonder that cattle hungering for a good meal are attracted to enter and eat, and that cattle owners, more particularly wandering graziers, drive their cattle in wilfully to graze, risking detection, in the knowledge that the cattle-pound fee will be a very cheap price to pay for the enjoy-

ment and benefit their animals have obtained. There is no severity in impounding cattle of people, who declining to pay the ridiculoulsy low grazing fees imposed upon cattle allowed into the open compartments of forests, or who weighing the cost of cattle-pound fees against the value of the illicit grazing, wilfully drive their cattle into closed forests. The impounding of such cattle does not point to the system of rotation and closure being inappropriate, nor to the size of working circles being too small, their number being too great, nor to the system of management being too detailed. It shows that the forest subordinates are striving honestly to perform their duties of conservancy for which they are employed: it shows that the vegetation, be it only inferior such as grass, is growing in luxuriance upon the bleak stony hill-sides which only a few years ago were bare and barren, and that consequently the reboisement of these lands is in active operation: it shows moreover that the pound fees are not sufficiently high to be deterrent, and it shows that greater attention is required to be given to the forest-grazing question. Government have in a recent Resolution recorded: "It is notorious that in every village many old, wornout or useless head of cattle are kept which are of no service to their owners and are not employed by them for any purpose but which they simply keep until they die of old age, disease or starvation, leaving them to forage for themselves with the cows, calves and other village cattle and never stall-feeding them or providing them with food." To impound such cattle when they trespass into closed forest is an unavoidable proceeding. Wandering graziers come and go, roaming about with large flocks of sheep and goats and horned cattle, and deliberately drive the animals into any grass or other lands they may come across, regardless whether the lands are private or public, whether they are forest lands, open or closed; to impound such cattle is the only protection open to the rayats, and is a very lenient plan of punishment resorted to by Forest officers. When cattle are permitted to graze in compartments which have served recently as coupes and been closed for a term of years for reproduction, the future of the forests of the working circle thus maltreated is jeopardized, and practically the essence of the working plan is blotted out. Of the 8,000 square miles of forests constituted under the Forest Act, which were in maintenance during the year of this report, not more than one-fourth portion, if so much, has been closed; this proportion, owing to the force of local conditions requiring forest grazing to be provided to the cattle of forest villages in the immediate proximity of the forest villages, is distributed in patches in all and many directions; and the fact that 197,366 head of cattle, of which more than one-half are sheep and goats, should have been caught trespassing into these closed areas is not extraordinary.

3.—CIVIL SUITS.

96. The suit which was brought against the Forest Department in the North Thána Division by one Balwantráo Hari Gavankar, referred to in paragraph 101 of last year's report, has been heard by the Assistant Judge of Thána, who decided that the plea urged by Balwantráo Hari, that the figures entered in his tender were by accident transposed, was a true one, but that the contractor was to some extent responsible for his carlessness: and the Judge directed accordingly that half the earnest money should be returned to the plaintiff, each party paying its own costs.

97. One Gangádhar Vishwanáth Kondkar filed a suit against the Department in the District Court of Thána to recover Rs. 2,700 as damages for the suspension and cancellation of his contract and confiscation of his material in the Rajiwli Coupe of 1888-89. This suit was not heard up to the close of the year. Government in their Resolution No. 2558, dated 12th April 1890, have sanctioned its defence.

98. The suit brought against the Department by Alli valad Mohidin, Patel of Bhiwndi in the South Thána Division, mentioned in paragraph 102 of last year's Administration Report, was decided in favour of the plaintiff and damages amounting to Rs. 72-7-8 were awarded and paid.

99. The suit instituted by Dipchand Bálkison Lodi in the District Court of Poona against Mr. Wáman Rámchandra Gaundé, referred to in paragraph 103

of last year's report, has been decided against Mr. Wáman Rámchandra Gaundé personally. The immunity, which as a public servant the Sub-Assistant Conservator of Forests claimed under Section 73 of the Forest Act, and which Government had acknowledged he was entitled to, in the circumstances of the case, by undertaking the defence of the suit, was disallowed, and judgment given in favour of the plaintiff against Mr. Wáman Rámchandra Gaundé in his private capacity for Rs. 341, with costs in proportion. On receiving copy of the judgment the Conservator again represented the whole matter to Government soliciting their sanction to an appeal being made to the High Court, and the Remembrancer of Legal Affairs supported his proposal with a very strong favouring opinion, so that Government in their Resolution No. 4028, dated 3rd June 1889, Revenue Department, sanctioned an appeal be preferred; this was accordingly done, but it did not come up for hearing during the year. However the case has been decided since, and the High Court has reversed the judgment of the Poona Court, has upheld the claim of the Sub-division Forest Officer to protection under section 72 of the Forest Act, and has decided against the original plaintiff, Dipchand Bálkison Lodi, with costs all through.

4.—FOREST FIRES.

100. The following statement exhibits the results of fire conservancy in the several divisions of the Northern Circle during the year as compared with those of the previous year :—

No.	Division.	Forest Area placed under protection against Fire.		Acreage burned.		Percentage burned.		Expenditure incurred.		Remarks.
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	
								Rs.	Rs.	
1	North Thána ..	381,296	440,347	15,049	8,041	3·9	1·7	1,106	1,175	The figures entered in column "Forest area under protection against Fire" during 1889-90 include the areas provisionally notified under Sections 4 and 28 of the Act which are in charge of the Forest Department but which are not included in Form No. 49.
2	South Thána ..	434,965	506,409	13,914	16,312	3·1	3·2	473	683	
3	East Khándesh ..	545,921	562,473	15,867	27,972	2·9	4·9	22	70	
4	West Khándesh ..	917,567	1,150,888	643,169	590,745	70·0	51·3	45	138	
5	Násik	817,828	763,327	12,074	6,360	1·4	0·83	36	14	
6	Ahmednagar ..	556,885	563,512	2,555	817	4·5	0·14	..	..	
7	Poona	473,748	477,935	1,635	4,793	0·34	1·0	..	74	
8	Sátára .. .	426,269	437,159	481	480	0·11	0·10	15	8	
9	Sholápur	174,526	177,242	1,852	665	1·0	0·37	..	..	
10	Surat	478,524	478,109	298,531	215,000	62·3	44·9	..	2	
11	Panch Maháls ..	206,381	207,765	11,088	13,317	5·3	6·4	..	..	
	Total ..	5,413,910	5,774,166	1,016,215	884,502	18·7	15·3	1,697	2,164	

101. It will be seen that fire conservancy was not unsuccessful, for the improvement in this important branch of forest management which has been reported in detail last year, has been more than maintained. Forest officers have given great care and attention to the prevention of fires and to finding out the origin of fires, and the subordinate protective establishments have, speaking in a general way, worked right well in watching and guarding against and in prompt attack upon occurring fires.

102. The written proceedings required to be submitted by the Range Forest Officer, upon every fire appearing in the forests of his range, has had a beneficial effect against the spread of forest-fires, as also in the adoption of precautions by forest subordinates, and in keeping the latter constantly on the alert. In the North Thána Division the improvement this year is marked, the area traversed by fire being 8,041 acres against 15,049 in the previous year; and although the usual precautions of burning fire-traces along spurs, sides of roads, boundaries of forest blocks and of coupes, &c., were undertaken to prevent the spread of fires from outside still the wide world privileges of coming and going, to cut and take ráb material, to collect firewood, to shikár, and the burning of grass under mhowra trees were the chief sources of forest fires, which broke out generally inside or within the forest boundaries. The increase of 2,398 acres burnt in South Thána, over the figures of last year, is owing to the extended operations of the contractors constructing the duct line of the Tansa Water Work through reserved forests in the Bhiwndi and Sálsette Ranges. Thousands of labourers were employed upon this work; and although great care was taken to guard against fires, still, despite all precautions, the forests were burnt.

103. In the two forest divisions of Khándesh, the East and the West, the former exhibits an inconsiderable increase in the percentage of area burned,

while the latter, a decrease over the figures of the peceding year. Although the spread of the fires in West Khándesh has been somewhat less, still the percentage of failures is the heaviest in the Northern Circle; and Mr. Fagan, the Divisional Forest Officer, very correctly records that so long as the people are free to enter the reserves, the fires in his division will occur as now, year after year, notwithstanding all the efforts of the Divisional Forest Officer and his subordinates. The Collector of Khándesh, Mr. Loch, in forwarding the Administration Report of the West Khándesh Division, writes, with reference to forest fires:—

"The undersigned regrets that so far no improvement has taken place in the matter of forest-fires, though Mr. Fagan and his subordinates have exerted themselves successfully in the detection of offenders in many cases. The question, for a further curtailment of privileges in the forests where fires have been most frequent, is now under consideration."

104. In all other divisions of the Northern Circle except Surat fire conservancy shows decided improvement, and although the Surat Division exhibits a decrease in the area burned, still 44·9 is a large percentage as compared with that of other divisions; but the leased Dángs are responsible for this very bad record; here the inhabitants are not under the control of the Forest officers, being the subjects of the Bhil Rájás. The forests are as often set fire to intentionally as carelessly, and as the population is sparse, it is difficult to get together a sufficient number of men to fight successfully against a big fire. When forest reservations have been selected and demarcated in the Dángs, it is probable that fire conservancy will have a better chance.

105. Village officers and forest villagers have rendered cordial assistance in many directions in the suppression of forest-fires. But a fire battle is not an easy fight as may be imagined by those who have not seen a long wave of fire roaring over a savannah, travelling at great pace, where the grass is more than 6 feet high. When all officers have worked well individual praise might appear to be invidious; however the difficulties of the situation give comparative value to the merit of success, and to Mr. F. R. Dasái, Deputy Conservator of Forests, 1st Grade, and Divisional Forest Officer, East Khándesh, the Conservator must accord special thanks for the fire discipline of his division.

5.—GRAZING AND FODDER GRASS.

106. Notwithstanding the abnormally high receipts from grass and grazing recorded last year, there was a further increase of Rs. 14,882 in the year under report, the total receipts under II*d.* being Rs. 3,42,037 against Rs. 3,27,165 in the previous year; and this result is due, in a great measure, to the more efficient working of the fee system, which is becoming better understood by the people.

107. The arrangements of the year regarding the supply of grass and provision for grazing, as compared with the totals of last year, are exhibited in the following table:—

No.	Division.	Valuable Kurans of Fodder Grass.		Fee Grazing.			Auction Grazing.		Free Grazing.			Grass given to Commissariat Department.		Area closed to Grazing	Miscellaneous Grazing Revenue.	Total Grazing Revenue
		(a) Area.	(b) Amount realised.	(a) Area.	(b) Number of Animals grazed.	(c) Amount realized.	(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Money value of the Privileges or Right	(a) Area.	(b) Amount			
		Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres	Rs.	Rs.
1	North Thána	7,497	13,436	...	4,046	1,007	...	...	353,014	171,750	42,937	...	...	15,023	...	14,443
2	South Thána	4,005	925	41,044	18,821	4,956	...	...	41,044	178,286	36,000	...	...	20,916	159	6,040
3	East Khándesh... ...	31,196	11,269	472,466	1,97,893	28,131	...	...	286,851	12,463	1,470	...	...	38,166	5,647	45,047
4	West Khándesh ...	20,653	7,659	948,123	5,20,842	63,783	...	...	846,966	81,000	15,309	...	...	213,471	7,339	78,781
5	Násik	32,316	21,660	514,455	2,25,322	32,104	1,414	121	329,741	187,468	31,794	...	...	131,707	1,320	55,205
6	Ahmednagar	5,204	1,485	313,106	1,25,895	18,079	10,049	2,565	14,219	43,830	1,807	4,275	6,412	215,889	3,911	26,040
7	Poona	47,851	29,761	156,470	1,05,638	18,492	55,484	858	131,357	21,483	50,000	19,392	38,000	56,123	1,912	51,023
8	Sátára	43,279	24,429	120,411	39,440	5,399	126,774	12,054	135,301	...	17,500	...	...	30,791	80	41,912
9	Sholápur...	44,584	10,585	28,538	32,806	4,875	...	...	12,374	60,736	7,793	...	...	115,737	1,250	16,710
10	Surat	...	...	41,717	5,900	615	301	42	706	1,000	250	...	...	915	...	657
11	Panch Mahális	16,983	1,524	40,100	20,114	4,642	...	...	132,000	45,000	13,000	...	...	33,739	13	6,179
	Total ...	253,568	1,22,733	2,676,430	12,95,717	1,82,083	194,022	15,640	2,283,573	808,016	2,17,651	23,667	44,412	872,777	21,581	3,42,037
	Total for 1888-89 ...	271,694	1,30,868	2,800,372	15,62,784	1,63,342	207,961	12,530	978,993	877,367	2,08,630	12,389	89,387	633,175	20,425	3,27,165

108. Although the gross receipts are in excess of that of the past year, still there is a decrease in certain divisions as will be seen from the following comparative statement :—

No.	Division.	Grazing Revenue, 1888-89.	Grazing Revenue, 1889-90.
		Rs.	Rs.
1	North Thána	13,316	14,443
2	South Thána	7,299	6,040
3	East Khándesh	46,372	45,047
4	West Khándesh	54,870	78,781
5	Násik	43,293	55,205
6	Ahmednagar	40,864	26,040
7	Poona	52,355	51,023
8	Sátára	40,500	41,912
9	Sholápur	21,769	16,710
10	Surat	794	657
11	Panch Mahális	5,733	6,179
	Total ...	3,27,165	3,42,047

109. In the North Thána Division the increase of Rs. 1,127 is due to better prices for fodder grass. In the South Thána Division the decrease of Rs. 1,259 is attributed to a small number of cattle having come from above the ghâts in search of pasturage in the forests. In the East Khándesh Division the abnormal receipts under "Cut grass" of the previous year could not be reached, and hence the decrease of Rs. 1,325. The increases in West Khándesh and Násik Divisions, on the other hand, are due to excellent prices obtained at auction sales for fodder grass, for which there was considerable demand owing to a scarcity of grass outside of forest boundaries through a generally deferred and capricious rainfall.

110. The decrease of Rs. 14,824 in Ahmednagar is due to none of the closed reserves having been thrown open to grazing this year as last, to the postponed arrival of the rains, and to the larger forest area placed at the disposal of the Commissariat Department for cutting and taking fodder-grass. The slight decrease of revenue in the Poona Division is accounted for by the enormous increase in the forest-area assigned to the Commissariat Department, for exploitation of cut grass, being 19,000 acres against 11,000 in the previous year. The value of the grass and grazing of the forest lands thus allotted to the Commissariat Department may be calculated at the rate of Rs 2 per acre, which will give Rs. 38,000.

111. The increase in the Sátára Division is due mainly to keen competition for fodder grass areas, the crops upon which were sold for cutting or for grazing, and also, in a small degree, to increased collections of grazing fees. The decrease in Sholápur is owing to 42,648 acres of forest lands which are in the ordinary closed list having been thrown open to grazing on fees last year, which regrettable proceeding, in view of reboisement, was not adopted again during the year of the report. The decrease and increase in the Surat and Panch Mahâls Divisions call for no special explanation as they are due to such fluctuations in the market as always occur in commercial business.

112. Government very rightly insist that the claims of forest villagers upon the forests for the grazing of their cattle must be recognized as a determining element in the regulation of forest grazing: seeing how numerous are the forest villages and the geographical relation between villages and forests, so that a system of large forest-blocks with large solid areas of closed forest and a larger area of open forests would result in locating many of the open pasturage compartments of forests a long way-distant, in not a few cases more than a day's journey, from villages the cattle of which have admitted claims to enjoy privileges of free, or fee-grazing for some portion, if not all, of their cattle, a detailed system of regulation is absolutely necessary. Forest-blocks

have to be of small size, and forest compartments in consequence, to be of small area, so that the open portions of a forest-block may be within convenient distance of the forest villages which have contributed forest and waste lands to the formation of the forest-block. If what may possibly be termed the minute system of working forest grazing on rotation, at present in practice in the Deccan divisions, as well as in other forests of the Presidency, were to be abandoned for a system upon broader lines with large working circles, with wide stretching pasturage ranges and with comparatively far-reaching closed belts, not only would forest villagers suffer great inconvenience, but receipts from grazing would very appreciably decline; so that the change of management would cause a heavy loss of revenue, and at the same time would set the forest villagers in opposition to forest conservancy to a far greater degree than any other kind of restriction could effect.

113. The subject of the regulation of forest grazing has been under earnest consideration by Government for a long time. Reports by Revenue as well as Forest officers had been called for and submitted. The Forest Commission gave careful attention to this matter, and made valuable recommendations and suggestions, and the final orders which were issued after the close of the year, and will appear in next year's report will no doubt work greatly to the advantage of forest conservancy and to the real interests of rural cattle. The aim of these orders is to exercise closer superintendence over the cattle entered for grazing into the forests, so that rotation in a sufficiently long period of closure, limitation of numbers, and the observance of a grazing season for open areas, may be applied, together with a restriction upon the free and illicit grazing which have been so prevalent in the past. There has been no proposal to expand the sub-divisions of forest working circles with a corresponding numerical decrease of the latter. On the contrary, united opinions urge that for the convenience of the village cattle, in deference to the habits and customs of the country, each forest grazing circle must be of small compass.

114. The year's census of cattle of all descriptions in the Collectorates which come within the boundaries of Northern Forest Circle, gives the following tabulated return: —

No.	Collectorate.	Cows and Bullocks.	Buffaloes.	Horses.	Asses and Mules.	Sheep.	Goats.	Camels.	Elephants.	Total.	Remarks.
1	Thána	386,342	92,998	1,480	25	3,051	46,699	...	...	530,595	
2	Khándesh	606,119	139,725	22,137	7,886	74,903	74,903	4	...	985,857	
3	Násik	448,080	64,164	18,224	2,660	95,165	104,548	...	...	727,841	
4	Ahmednagar	622,298	59,090	22,774	5,167	280,176	158,291	...	...	1,147,796	
5	Poona	520,606	84,965	14,022	3,971	169,501	169,502	...	...	962,627	
6	Sátára	512,750	158,828	15,768	2,619	386,148	89,493	27	3	1,165,636	
7	Sholápur	426,971	75,969	12,041	3,366	178,584	178,585	...	...	875,516	
8	Surat	252,354	81,148	985	...	32,235	68,722	...	...	435,444	
9	Panch Mahals	289,380	37,566	2,862	1,707	6,439	27,833	35	...	315,822	
10	Ahmedabad	283,366	132,064	6,057	...	38,134	38,134	...	...	497,755	
11	Kaira	218,107	197,686	2,557	5,679	23,906	23,907	199	3	472,044	
12	Broach	81,326	52,514	2,487	1,382	15,166	23,711	145	...	176,681	
	Total ...	4,657,759	1,176,717	116,394	34,412	1,303,498	1,004,418	410	6	8,293,614	

6.—FENCING.

115. The following statement shows the fencing work undertaken in the North Thána Division during the year:—

No.	Táluka.	Description of Fence.	Length in Miles.	Cost.	Remarks.
				Rs. a. p.	
1	Sálsette ...	Wire ...	5¾	253 6 0	Old wire 4,820 lbs. purchased from Telegraph Store Department at a cost of Rs. 323 was on hand from last year, and 10,441 lbs. of such wire were purchased during the year at a cost of Rs. 579 for fencing purposes.
		Cactus ...	1½	117 13 6	
2	Bassein	Wire ...	1½	246 6 0	
3	Váda	Wire ...	1	81 1 0	
		Total ...	9¾	698 10 6	

116. In the South Thána Division some fencing with wire was constructed in the Kalyán and Sháhápur Ranges. The wire used in Kalyán being old telegraph wire, obtained from the Telegraph Department, while the seven strand wire and barbed wire used in the Sháhápur Range was purchased in Bombay. About two miles were thus fenced at a cost of Rs. 992.

117. Cactus fencing over 49,240 running feet was planted in the Ahmednagar Division at a cost of Rs. 193-14-3, and by Beat Guards over 20,000 feet without extra cost to Government.

118. In the Poona Division two coupes at Lonikalbhor in the Haveli Range, and 2 at Handalwadi in the Bhimthadi Range were fenced with wire at a cost of Rs. 582-15-3. The wire used was seven strand wire for the 3 lower wires and barbed wire for the upper one.

119. Thorn and aloe fencing over 57,690 running feet was put down in the Sátára Division round different plantations at a cost of Rs. 194. Chilari seed was also sown round some of the plantations, but owing to an unfavorable monsoon these hedges were not very successful.

120. In the Sholápur Division 46,691 feet were fenced in with aloe, sher, and partly with cactus, at a cost of Rs. 485-10-0; seven strand wire and barbed wire was obtained from Bombay to enclose an area of 424 acres in the Karmála Range, but the work was not begun before the close of the year.

121. *Cactus.*—Prickly-pear makes a good fence, but it grows so rapidly and spreads so greatly that if it were to be adopted largely for fencing forests, there would be thousands of miles of prickly-pear to be trimmed and kept in order annually, which would entail a very large and unremunerative outlay—unremunerative because the trimmings are not saleable, nor do they easily admit of destruction and disposal. Taking these circumstances into consideration the Conservator issued an order to Forest officers, in whose divisions prickly-pear abounds, that prickly-pear fencing should be adopted only in very exceptional circumstances.

7.—NATURAL REPRODUCTION.

122. There are two kinds of natural reproduction, the one by means of seed shed by mature trees, and the other by means of coppicing from the roots of cut trees. The latter was very good indeed in the Northern Circle, as generally, it is not so liable to destruction by fire. The improvement in fire conservancy has had a very beneficial effect on the former. Natural reproduction is a mighty power available for reclothing forest estates, provided there is sufficient and seasonable rainfall and due care is taken to protect the areas against fire and the grazing of cattle, especially sheep and goats. In the two Thána Divisions the coppice shoots that appeared in the coupes between August and December, had attained considerable dimensions by the hot weather. In the Karjat Táluka coppice-shoots of 3 and 4 years old have attained the height of 25 and 30 feet with a diameter of 4 inches. In places where grazing is never allowed seedlings of teak and blackwood have sprung up in abundance. In the two Khándesh Divisions the reproduction by seed, supplemented by coppice shoots, was vigorous in closed forests and in places not traversed by fire.

123. In the Divisions of Násik, Ahmednagar, Poona, Sátára and Sholápur, natural reproduction is progressing steadily, and the results are very encouraging, although the lateness and unequal distribution of rain in Ahmednagar and Sátára has, to some extent, retarded progress. Lands which were absolutely bare are getting covered with seedlings, which gradually develop into trees, and thus the assisted efforts of nature in this work are decidedly successful.

124. In the Gujarát Divisions of Surat and Panch Maháls the rainfall was good and fairly seasonable. Reproduction, both by self-sown seeds and shoots from stools, was good, although injured by fires where they occurred.

8.—ARTIFICIAL REPRODUCTION.

125. In the North Thána Division 291 khandis of mixed seeds were broadcasted and dibbled and 100,006 seedlings were transplanted from forests or

nurseries into blanks; 17,375 bámbu rhizomes were planted. A nursery of casuarina was also started in the Sophála plantation. Hirda seeds were also sown at Rájawli in the Bassein Range, but did not germinate freely. In the South Thána Division 60 khandis of miscellaneous seed collected by Forest Guards were broad-casted over 1,034 acres in all the ranges, and 1,250 acres were pitted over and planted, the majority being in the Khálápur and Karjat Ranges, in order to cover the areas denuded by Thákúrs, who had made dálhi clearances in the Mátherán and neighbouring forests. About 25 acres in the Tánsa catchment area were successfully planted up with seedlings of teak, ain, mango, khair, jámbhul, dháwra, &c., and the result has been very satisfactory.

126. In the East Khándesh Division 1,185 acres were brought under cultural operations by sowing 24 khandis of different kinds of seeds, but the results were not so good as desired. The usual systems of plantations were followed in the West Khándesh Division, but the rains were late and were not favourable, and forest fires, the great enemy of plant life, worked considerable damage. However the anjan reshoots in the coupes of the last few years were thriving.

127. The plantation operations in the Násik Division, which extended over 1,291 acres in several ranges, were fairly successful, although the deficiency of moisture was not conducive to this end. In the Ahmednagar Division 15,801 acres were broad-casted with 185 khandis of seeds, and 713 acres were pitted over. The results were fairly satisfactory. The plantations at Dongargan in the Nagar Range and at Hanmantgáon in the Káhuri Range are in good condition.

128. In the Poona Division 145 khandis of different kinds of seeds were collected by Forest Guards and were sown by hired labour over 841 acres and in 115,740 pits dug by Beat Guards. In the Sátára Division 95 khandis of seeds collected by Beat Guards were sown and broad-casted over 15,873 acres and germinated freely, especially round Mahábaleshvar, where a satisfactory number of seedlings of jámbhul, hirda, pisa and of other kinds are to be seen. Bámbus were also planted and are in a very flourishing condition. The area operated over in the Sholápur Division was 2,754 acres, and the seed sown in them germinated freely and the plants appear in good health. In the Surat Division no regular cultural operations were undertaken, as natural reproduction is vigorous. The small plantation at Chikhli has shown fairly good results. In the Panch Maháls 146 acres were planted over with mixed seeds collected by Forest Guards, but the results were not very satisfactory.

129. The total expenditure incurred under plantations in the several divisions of the Northern Circle, during the year, which amounts to Rs. 11,056 against Rs. 10,177 in the previous year, and the areas treated under regular plantations and cultural operations, are exhibited in the following statement :—

No.	Division.	Regular Plantations. Area in Acres.				Cultural Operations. Area in Acres.				Total Cost.		
		On 1st April 1889.	Added.	Excluded.	On 31st March 1890.	On 1st April 1889.	Added.	Excluded.	On 31st March 1890.	Rs.	a.	p.
1	North Thána	2,209	1	...	2,210	5,917	4,649	..	10,566	850	0	0
2	South Thána	467	3	17	453	4,014	2,981	...	6,995	1,682	0	0
3	East Khándesh	10	...	10	..	12,132	1,185	...	13,317	15	0	0
4	West Khándesh	38	5	...	43	19,460	349	167	19,642	835	0	0
5	Násik	...	...	...	...	4,947	1,291	...	6,238	2,467	0	0
6	Ahmednagar	142	...	...	142	7,424	1,129	...	8,553	1,291	0	0
7	Poona	...	...	..	.	34,667	2,718	...	37,385	1,167	0	0
8	Sátára	2,571	187	...	2,758	85,751	15,874	...	101,625	542	0	0
9	Sholápur	..	...	...	...	22,445	5,368	...	27,813	2,178	0	0
10	Surat	...	...	...	...	917	20	22	915	1	0	0
11	Panch Maháls	26	31	...	57	288	146	.	434	28	0	0
	Total ...	5,463	227	27	5,663	197,962	35,710	189	233,483	11,056	0	0

130. That the cultural operations in the Northern Circle, if what has mostly consisted of broad-cast sowings of seeds can be so termed, have proved

to be abundantly successful there is no room to doubt, for it is a topic of frequent and general remark that the appearance of the hill-sides in the Deccan have changed greatly since they have been brought under treatment for reboisement, for young trees are seen to be growing where there was formerly bare rock. The Bishop of Bombay in conversation with the Conservator mentioned incidentally that in the course of his tours in the districts he had noticed often the transformation that is taking place upon the hills. Dr. Brandis, a former Inspector General of Forests to the Government of India, has recorded the satisfactory and surprisingly rapid progress made, within his recollection, in re-clothing hills in the Poona District with timber. In the Sholápur District, in the extreme east of the Deccan, where the great famine was very severe, the Collector of Sholápur has reported in a letter No. $\frac{D}{474}$, dated $\frac{10}{11}$th March 1890, to the Commissioner, after having visited forest lands in most of the ranges of that division, that there is every reason to believe that forest conservancy has been attended with excellent results. In successive Administration Reports of the Circle, mention has been made of the progress effected in reboisement. Plantations proper cost a great deal of money, and cannot be resorted to except in a small way for exceptional areas and experimental works. Where enormous forest tracts covering thousands of square miles are under management, the expenditure upon a minute system of plantations in any thing like an extended scale would, not only swallow up all receipts, but be far greater than the Imperial revenues could afford; and inexpensive broad-cast sowings, with adequate protection, show far better results, than the more detailed and very expensive cultural operations.

131. The Divisional Forest Officer, West Khándesh, records :—

"Natural reproduction is visible in all our closed forests, and in those of the heavily wooded tracts where the soil is as yet in a good condition for the seed to fall on from the surrounding seed-givers."

132. The Divisional Forest Officer, East Khándesh, reports :—

"The obstacles to natural reproduction by seed in all the reserves in the plains during the year were fires, grazing, and two successive unfavourable seasons owing to the late rains having held off. There is no doubt that during the rains most of the areas are fairly stocked with seedlings which hardly ever survive the hot weather. The principal drawback in the Sátpudás is however fire, and it is most surprising to see the vitality of the roots of some species after the seedlings have been burnt to the ground year after year. Of course a good many succumb to this treatment, and some make a stand and establish themselves, if by any chance they are left alone by fire for one season. Natural reproduction from shoots is, as a rule, very good indeed, as it is not damaged by fire to the extent that seedlings are."

133. The Divisional Forest Officer, Sholápur, states :—

"Natural reproduction in this division is progressing steadily, and the results are very encouraging, lands that used to be absolutely bare are getting covered with grass, and where grass was very poor and innutritious its quality has improved wonderfully. Seedlings have developed into trees thereby making a good show, and self-sown seedlings are to be found almost everywhere."

134. The Divisional Forest Officer, Ahmednagar, records :—

"The rainfall during the year (25·17 inches) though up to the average and some 7 inches in excess of the fall of the preceding year, was very late and unequally distributed: most of the rain falling during the month of September, June, July and August being almost without any rain. These circumstances are undoubtedly adverse to the progress of natural reproduction; for, while during June, July and August many of the seeds lying in the ground must have been scorched up and deprived of much of their vitality, a large number of seeds must also have been washed out of the ground and carried away by the torrents of water that flowed off the hills during the heavy downpours of rain during September. The progress of natural regeneration, however, was by no means at a standstill, for during his inspection of the hills in Jámkhed, Karjat, Shrigonda, Párner and Ráhúri, the undersigned saw many seedlings of khair growing behind rocks and stones and under cover of bushes where the seeds found protection from the action of the water. The undersigned also noted with much interest throughout the forests of this division the growth of the nimb. Seedlings of this valuable tree are to be seen everywhere forcing their way through bushes of amoni, hekal, tarwad, korind, and even prickly pear, in which they have germinated from seeds deposited by birds. The attention of the Range Forest Officers and their subordinates has been specially drawn to this interesting circumstance, and they have been strictly enjoined to follow the example of the birds and sow seeds of nimb and other useful trees in bushes and under the lee of rocks and stones where they will get shelter from the sun and weather and protection from cattle."

135. The Divisional Forest Officer, South Thána, reports :—

"Every year a great crop of seedlings appear in the forests during and after the rains, but unless fire is kept out of the forest few of them survive. A great number also are killed by the grazing of cattle or survive to grow up stunted; but this evil, great though it be, is not so great as that of fire. Fires are a menace to the very existence of teak and the better kinds of timber trees, and the matter must be faced firmly if the present system of working of the forest is to be attended with any success and not to lead to disaster. At present the hands of the Forest Department are sadly tied owing to the unwillingness of the Revenue Department to make use of even the small amount of punitive means, placed at their disposal by Government Resolution No. 1942 of 24th March 1888. Under the present system of working a good crop of coppice shoots quickly succeeds to the cutting, reinforced by seedlings naturally sown. The coppice shoots appear immediately if the cutting is made between August and December, and attain fair dimensions by the hot weather. If the cutting is not made till later, they make little progress till the succeeding rains, and their growth is much checked, even when not entirely stopped, should by any accident fires occur in the compartment. The regulations are very strict in this matter, the contractors being compelled to fire trace their coupes, and in addition be liable to fines, if in spite of this, fires should occur. By this means fires can generally be kept out of the coupe of the year, but it is more difficult to protect the coupes of preceding years. After the coppice shoots and seedlings are two or three years old, they generally survive a fire which may traverse the coupe, but their growth is much checked, and they grow up bayonetted instead of with stems straight from the ground as they should. In some parts of the district the coppice is extraordinarily vigorous, notably in the Hálivli and Kiroli forests near Karjat, where coppice shoots of three and four years old have attained heights of 25 and 30 feet and diameters of 4 inches. In the forest of Bhawsa, which now forms part of the Tánsa Lake catchment area, and where grazing has never been carried on to any extent, seedlings of teak and blackwood were observed in plenty, and the same may be said of other parts of the district where the same conditions prevail. In fact, natural reproduction in the Thána District may be said to be perfect if only nature be allowed her own way."

136. The Divisional Forest Officer, Surat, has remarked :—

"The rainfall of the year being good and fairly seasonable natural reproduction was satisfactory, though retarded by fire. In the Mándvi Range teak cuttings of previous years are fast regenerating by the development of well-grown coppice shoots. The stools of trees cut round the town of Mándvi have in most instances thrown out vigorous straight coppice shoots. In the warm moist villages of the Dángs reproduction, both by self-sown seeds and shoots from stools, is remarkably rapid; trees of teak and other species developing clean, straight poles of great length; but here also fire plays immense havoc by scorching seedlings, burning trunks of sound trees, and otherwise damaging all other growth."

137. Mr. Wilkins, Deputy Conservator of Forests, has reported that when he visited in the month of July 1889, the closed portions of the reserved forests on the Persick hills in the Sálsette Range of the North Thána Division, he found thousands of seedlings of teak, ain, khair, &c., the result of last year's and the previous years' broad-casting, which were thriving well and had established themselves.

138. There is not the least doubt that all sowings of seeds, whether in open or closed forests, are of decided benefit; of course the results are and must be infinitely better where there is adequate protection against man, beast and fire. But seeds sown in open forests subjected to over-grazing germinate, and although an infinitesimally small percentage of the seedlings escape destruction by fire, and by the mouths and hoofs of cattle to grow into trees, still some do avoid, by great luck, an early death and become big trees. The portion of a seedling above the ground dies down generally, or is burnt down where fires occur, for a few years successively, reappearing in the rains, for the roots retain life, while the root stock goes on thickening, until eventually it sends up a vigorous shoot, which survives till the succeeding rains, and then the young tree soon becomes defensible.

9.—EARLY THINNING, REMOVAL OF INFERIOR SPECIES, CUTTING OF CREEPERS, &c.

139. The eradication of prickly pear (*Opuntia dillenii*) from within the boundaries of reserved forests in all the divisions of the Northern Circle, has been performed by Forest Guards where the growth is of recent origin, and by hired labour where it was old and covers much ground in dense growth. In the divisions of Násik, Ahmednagar, Poona and Sátára Rs. 124, 251, 477 and 6, respectively, have been spent on this account. Forest Guards are provided with bill-hooks for cutting creepers in the forests of their own beats.

10.—EXPERIMENTS WITH EXOTIC TREES.

140. The Carob (*Ceratonia siliqua*), "Rain tree" (*Pithecolobium saman*), several varieties of Eucalyptus, the Mahogany, the Divi divi and other foreign trees which have been experimentally reared in past years in the Dongargan reserved forest of the Nagar Range in the Ahmednagar Division are growing well. The Mahogany seedlings in the Násik Division are doing remarkably well. The small Casuarina plantations along the sea shore on sand hills in the Máhím Range of the North Thána Division are making a good show. The Divi divi trees planted some years ago in the Padmála forest of the Erandol Range of the East Khándesh Division are in very good and vigorous condition, as are also the *Inga dulsis* seedlings in the Pádli and Tándulvádi plantations of the Sátára Division.

141. The results of the experimental sowing of date palm, referred to in paragraph 135 of last year's report, have been variable, very few of the seedlings transplanted from the garden of the Divisional Forest Officer's house at Násik to the Páthardi reserved forest have done well. Out of 689 seedlings in the Sátára Division, some died during last cold weather, while the others have made very slow growth during the year. In the Sholápur Division 250 plants in different reserved forests are in good condition, but those in the Bársi and Sholápur Ranges have not done at all well. In the Panch Maháls Division the plants referred to in paragraph 135 of last year's report are in a fairly healthy condition, the most flourishing being a little over 12 inches in height.

11.—COMMUNICATIONS AND BUILDINGS.

(*a*).—Roads and Bridges.

142. The amount spent upon the construction and repairs of roads at the cost of the Forest Budget was only Rs. 788, made up of Rs. 70 in the Sátára Division, on repairs to the road from Kola in Karád to Dhamni and Ambaoda in Pátan, which serves the teak forests in the Vang valley, and Rs. 718 in the Surat Division on ordinary repairs to the Dáng forest road. In no other divisions of the Northern Circle was expenditure incurred under this head, from the Forest Budget by Forest officers, who have no time, even if they possessed the technical knowledge, to devote to road-making.

143. The Public Works Department have done much road-making during the year at the expense of the Provincial Services budget, which will be of the highest utility in the transport and removal of timber and other forest produce. A brief sketch of these works is as under.

The most, if not all, these projects have been undertaken at the instance, advice, or with the supporting opinions, of the Forest Department :—

I.—Thána District.

(*a*) *Dáhánu-Jowhár road.*—Rs. 16,759 were expended upon it during the year, making Rs. 1,79,747 up to date ; at times more than one thousand carts used the road daily.

(*b*) *Váda-Shirghát road,* which is to be 31 miles in length.—Rs. 41,532 has been spent upon it during the year, making a total expenditure of Rs. 83,951 out of the sanctioned estimate Rs. 1,44,645. This road will open out the valuable East Váda and Mokháda forests to the country above the Western Ghats in the Igatpuri Range of the Násik District ; and from Váda another section of this road leading past Manor bandar, the great timber-export bandar of this part of the Thána District, goes to Máhím on the sea-coast, a distance of 33 miles from Váda, Rs. 11,201 has been spent on this section during the year.

(*c*) *Bhiwndi to Váda road.*—Rs. 4,413 were expended during the year, making the total cost Rs. 1,39,020 up to date, against an estimate of Rs. 14,61,005. This road serves the forests of East Bhiwndi and West Váda about Khoj Fort, &c. Some other short roads have been under construction in the Sálsette and Kalyán Ranges ; and surveys have been made of roads over Nánewli and Maidwan Khinds which will improve forest communications.

II.—Khándesh Collectorate.

Road from Ranálá to Nandurbár was completed; and a road from Dondiácha to the Tápti river and thence to Sháháda under construction; this road will be used for the transport of timber from the Akráni and Sháháda forests towards the central markets of Khándesh.

III.—Ahmednagar District.

Two roads have been making in the Akola Rrange which may be of much service to this Department:—

(*a*) From the Kolhár-Bári road near the village of Randha through the villages of Guhera, Bhandardara, Sámrad, a distance of 9 miles.

(*b*) *Jamgaon to Kotul road*, which forms part of the scheme for opening up the wild hill forest-clad country in the west connecting the two important market towns of Rajur and Kotul.

IV.—Poona District.

The Ghoda and Ámbegaon road in the Khed Táluka has been continued; several teak forests will be tapped by it.

V.—Sátára District.

A new road from Pusegaon to Vadúz, 12 miles in length, has been commenced at an estimated cost of Rs. 30,851, upon which Rs. 10,890 have been spent.

(*b*).—BUILDINGS.

144. Government in their Resolution No. 216 A—969, dated 30th May 1889, in the Public Works Department, were pleased to empower the Conservator of Forests to deal with proposals for new departmental works and for additions and alterations to existing works, provided the expenditure did not exceed Rs. 500 in each case, and they placed at his disposal from the Provincial Services budget the sum of Rs. 3,000 for the purpose. The following statement will show in detail the works sanctioned during the year from the discretionary grant of Rs. 3,000, under the orders quoted above :—

No.	Executive Officer.	Name and locality of Works.	Amount sanctioned.
			Rs.
1	Executive Engineer, Ahmednagar.	For providing a paving in the Range Forest office and seed-room in the Mámlatdár's kacheri at Karjat	109
2	Do. Kaira ...	For providing a seed-room for the Forest Department in the compound of the Máhalkari's kacheri at Hálol	203
3	Do. Sátára ...	For paving a concrete and Portland cement flooring in the Forest Ranger's office at Islámpur in the Sátára Division	30
4	Do. Khándesh ...	For providing paved floor in the Range Forest office at Chálisgaon	83
5	Do. do. ..	For providing a window in the Forest office in the Mámlatdár's kacheri at Chopda ...	74
6	Do. Sátára ...	For enlarging the office for Forester at Koregaon in the Sátára Division...	36
7	Do. Násik ...	For providing an additional store-room to the office of the Range Forest Officer at Chándor	462
		For providing a teakwood record-shelf in the office of the Range Forest Officer at Chándor	25
8	Do. Thána ...	For providing teak plank ceiling to the Range Forest office at Kelwa Máhím	111
9	Do. do. ...	For providing plank ceiling to the Range Forest office at Bhiwndi in the Thána District	60
		Total ...	1,193

145. In addition to the above, the Public Works Department had undertaken the construction of six hirda depôts in the Akola Táluka of the Ahmednagar Division. Two depôts, *viz.*, at Shinganvádi and Ghátghar, were completed before the close of the year, while the remaining four were still under construction. Office accommodations for Range Forest officers was likewise built by the Public Works Department, at the instance of the Conservator, within the premises of kacheries of Bhusával, Bhadgaon and Navápur in the Khándesh District. Seed-rooms in the offices at Karjat and Shrigonda in the Ahmednagar District were paved. An office and store-room was built for the Range Forest Officer of Málsiras in the Sholápur District; and a seed-room for the Range Forest Officer, Hálol, in the Panch Maháls Division.

146. The expenditure incurred by the Divisional Forest officers in the Northern Circle, in building Forest Guards' huts, tempoary depôt-houses, and upon ordinary repairs to existing rest-houses and forest posts, is given in the following statement:—

No.	Division.	Amount.		
		Rs.	a.	p.
1	North Thána	515	1	0
2	South Thána	352	13	6
3	East Khándesh	128	3	0
4	West Khándesh	943	0	8
5	Násik...	333	1	0
6	Poona...	120	0	9
7	Sátára	41	4	6
8	Surat	457	15	2
9	Panch Maháls	36	0	9
	Total ...	2,927	8	4

CHAPTER IV.

OUTTURN AND WORKING.

I.—DEPARTMENTAL OPERATIONS.

(1) Timber.

147. The following statement shows an approximate estimate of the outturn, in cubic feet of the timber exploited from the forests by Government Agency, with the cost incurred and the revenue realised by its sale, during the year 1889-90, as compared with the outturn, cost and receipts of the preceding year:—

No.	Division.	1888-89.					1889-90.				
		Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Cost.	Receipts.	Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Cost.	Receipts.
		C. ft.	C. ft.	C. ft.	Rs.	Rs.	C. ft.	C. ft.	C. ft.	Rs.	Rs.
1	North Thána	...	82,938	...	4,402	14,771	...	10,206	...	457	2,449
2	South Thána	...	18,100	7,398	2,344	7,665	...	41,868	...	6,558	5,522
3	East Khándesh	2,500	11,250	...	904	7,722	77	19,700	...	1,078	9,585
4	West Khándesh	18,375	21,921	...	3,251	20,240	...	50,489	1,983	2,844	33,366
5	Násik	578,077	...	...	1,665	29,356	78,988	...	...	472	4,140
6	Ahmednagar	...	296,221	...	1,437	7,336	...	1,14,882	308	1,442	6,967
7	Poona	59,946	41,971	...	2,934	27,699	97,547	34,738	...	3,191	25,596
8	Sátára	...	38,531	...	1,797	16,491	...	33,452	...	1,892	14,912
9	Sholápur	1,352	...	...	15	173	1,979	10	...	21	271
10	Surat	65,233	108,577	2,088	3,552	41,889	81,066	2,20,146	849	11,535	31,522
11	Panch Maháls	20,249	...	3,940	426	1,039	5,348	504	1,949	263	441
	Total ...	745,732	619,509	13,426	22,727	1,74,381	265,005	525,995	5,089	29,753	1,34,771

148. The great decrease appearing in the North Thána Division is due to the abolition of departmental operations in favour of sales of standing timber to contractors and purchasers to fell and remove. It was not found to be necessary to open departmental retail shops for the sale of timber, &c., to villagers, as recommended by the Forest Commission, for not only do the people resort to the coupes for their requirements in timber and firewood, as freely as to a fixed bazaar, but contractors also send cart-loads of timber in various intermediate directions on speculative sale, and thus the local wants are fully and more readily supplied.

149. In the South Thána Division, departmental operations were restricted to the coupes which had remained unsold at the auctions of the season, with the view of serving the interests of the agricultural classes in the division; the timber was exploited departmentally, but the people did not show appreciation of this conciliatory proceeding, and no sale at all could be effected in no less than 9 out of 16 coupes, and consequently the receipts are less than the expenditure; the value of the material remaining on hand being Rs. 8,200. The reason is not far to seek: in dealing direct with Government the villagers have to pay cash, whereas in buying from contractors and dealers they deal on credit and also by barter or exchange, and their wants can be supplied in better detail.

150. In the two Khándesh Divisions the year has been, on the whole, a good one for sales of timber cut departmentally, owing to the import of foreign timber having been abnormally small before the departmental sales. In the Násik Division, the decrease in outturn is due to a reduced volume of fellings of teak in Málki numbers. In the divisions of Ahmednagar, Poona and Sátára the departmental operations were undertaken as usual, but the demand was not very brisk. In the Surat Division much of the material remained on hand at the close of the year, and hence the decrease in receipts. In the Panch Maháls Division, almost all the material cut departmentally was handed over to the sufferers by the Godhra fire, as per Government Resolution No. 2952, dated 17th April 1889, and hence very little remained for the market.

(2).—Firewood.

151. The departmental operations of firewood, which include the loppings of teak and other kinds undertaken during the year in the several divisions of the Northern Circle, as compared with the results of last year, are exhibited in the statement below, with the outturn in cubic feet, the expenditure incurred, and the revenue derived:—

No.	Division.	1888-89.			1889-90.		
		Firewood. Cubic feet.	Cost.	Receipts.	Firewood. Cubic feet.	Cost.	Receipts.
			Rs.	Rs.		Rs.	Rs.
1	North Thána	101,325	1,390	9,183	3,225	29	402
2	South Thána	52,967	845	2,546	51,375	95	1,762
3	East Khándesh ...	428,625	2,739	10,101	443,340	2,713	12,249
4	West Khándesh ...	134,937	1,729	2,600	245,171	1,223	7,246
5	Násik	196,703	1,073	2,918	183,060	976	3,871
6	Ahmednagar	74,340	204	1,294	168,150	281	1,216
7	Poona	233,162	2,430	10,940	268,272	2,576	11,094
8	Sátára	174,405	1,900	4,001	123,275	1,401	2,265
9	Sholápur	16,718	144	1,134	24,184	166	1,767
10	Surat	57,341	...	302	3,111	...	166
11	Panch Maháls... ...	34,890	659	739	49,711	187	2,892
	Total ...	1,505,413	13,113	45,758	1,562,874	9,647	44,930

152. The decrease in the two Thána Divisions is due to the same causes as have been given under timber operations. In the East Khándesh Division the operations were very encouraging, as there was a great demand for firewood

owing to the increase in the number of ginning factories in that part of the country. In the West Khándesh Division all the fuel remaining on hand from last year, 23,045 cubic feet, was sold during the year, in addition to the sales of the season's outturn; hence the increase in the revenue realised. The increase in Násik was caused by the sale of the balance of firewood from the preceding year. The fuel operations in the Ahmednagar and Poona Divisions were carried on, on the same lines as heretofore, and the demand was fair. In the Sátára Division 44,410 cubic feet remained unsold at the close of the year, and hence the decrease in receipts. No regular expenditure was incurred in the Surat Division on fuel operations, but the loppings of timber trees felled departmentally were sold as firewood. In the Panch Mahás Division 1,51,296 cubic feet from last year were sold during the year.

(3).—Bámbus.

153. No departmental cutting of bámbus was undertaken during the year in any divisions of the Northern Circle, except Sátára. 600 bámbus were thinned out in the forests round Lingmalá, but being mostly crooked and badly grown, did not sell well.

(4).—Other Minor Produce.

154. The only important departmental operation undertaken under this sub-head was the collection of hirda in the divisions of the Northern Circle, where the hirda tree abounds, and the following statement will show the results of the year as compared with those of the past year:—

No.	Division.	Yield.		Cost.		Receipts.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
		K. m. s.	K. m. s.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	North Thána ...	108 26 13	68 23 4	679 14 10	495 14 6	1,727 6 6	1,342 3 6
2	South Thána ...	265 3 0	83 23 5	1,823 4 0	610 2 8	4,406 15 10	1,656 9 0
3	Násik	51 3 9	47 12 7	56 5 8	30 12 5	.....	.....
4	Ahmednagar ...	340 4 12	132 17 10	2,258 9 3	787 6 0	3,743 2 10	4,926 0 5
5	Poona	271 25 3	138 18 8	1,348 8 3	524 4 6	3,537 14 10	3,197 7 8
6	Sátára	856 23 10	409 9 4	5,745 2 9	2,820 9 3	13,477 10 1	10,140 8 7
	Total ...	1,894 3 5	880 20 10	11,911 12 9	5,269 1 4	26,893 2 1	21,262 13 2

155. It will be seen that the outturn of hirdas has decreased very considerably, owing to the failure of the crop generally, during the year. However the poor crop was somewhat compensated for by better prices at auction sales. In the two Thána Divisions the crop of 1888-89 was exceptionally good, and therefore the results were infinitely superior to those of the year under report, in which the yield was far below the average. The rate per khandi at auction sales was Rs. 19 against Rs. 16 in the preceding year. In the Násik Division hirda was collected on the share system, as in the year before, and therefore the expenditure charged represents only the cost of watching the collected hirda, the sale-proceeds appearing under the sub-head *IIe*. The hirda remaining on hand at the close of the last year was sold at Rs. 31 per khandi. In the Ahmednagar Division the rate per khándi at which the hirda was sold was Rs. 26 against Rs. 11 in the preceding year. The sale-proceeds include Rs. 1,743 for the hirda collected and sold last year, but the proceeds of which were not credited during that year. The expenditure shown against the Poona Division was incurred in the Mulshi Range only, while the hirda in other ranges was sold by auction on the share system. In the Sátára Division there was great falling off in the collection of hirdas owing to a very bad crop, but the price realised, Rs. 60 per deshi khandi, *i. e.*, Rs. 24 per Bombay khandi of 784 lbs., was the highest ever realised in that division, and hence with a diminished yield the receipts compare favourably with those of the past year when an overabundant crop was harvested.

156. Shikákái (the pod of *Acacia concinna*) also gave like hirdas a deficient crop, and therefore the revenue is comparatively small.

157. In the Sholápur Division the bábul bark of the trees felled departmentally sold by auction for Rs. 37.

II.—REMOVAL OF PRODUCE BY PURCHASERS.

(1).—Timber.

158. The statement given below shows the outturn, in cubic feet, of timber removed from the forests of the several divisions of the Northern Circle by purchasers and consumers, at their own expense, and the amount realised, as compared with the results of the previous year:—

No.	Division.	1888-89.				1889-90.			
		Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Amount realised.	Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Amount realised.
					Rs.				Rs.
1	North Thána ...	...	844,464	...	1,53,392	...	872,187	...	2,17,319
2	South Thána ...	...	178,053	...	1,67,316	...	1,379,235	...	1,67,518
3	East Khándesh	...	...	155,305	3,771	...	...	199,280	4,784
4	West Khándesh	...	...	718,366	14,395	...	...	509,584	11,040
5	Násik	58,654	...	...	9,193	244,204	...	...	13,439
6	Ahmednagar ...	...	...	9,628	217	...	...	6,740	189
7	Poona	...	380	...	130	...	39,902	...	797
8	Sátára	7,196	309	3,067	4,052	7,479	1,204	...	2,679
9	Sholápur ...	...	...	324	290	...	...	154	60
10	Surat	41,323	...	40,322	35,745	33,892	...	27,519	24,343
11	Panch Mahals...	160,686	...	...	33,927	248,906	50,754	90,094	47,848
	Total...	267,859	10,23,206	927,012	422,428	534,481	2,343,282	833,371	4,90,016

159. The system of selling timber standing in the compartments, laid out on the ground by the Working Plans Division, in the two Thána Divisions is found to work admirably, almost all the compartments offered for sale fetched excellent prices. The plan of small coupes in considerable numbers spread over the whole forest region, commends itself also from a trade point of view, for dealers of small means, village Pátels and Sávkárs, who are not possessors of great wealth, can afford to speculate to the extent of Rs. 3,000 to 5,000, and they purchase one or two coupes, and thus the better-to-do classes of the local population are becoming interested in forest conservancy and working, are competing for the power of providing for local supply; and with a multiplicity of purchasers combination against the departmental sales is less possible, while on the other hand, the villagers advantage by having more wood shops to go to for their wants, for they fare thereby much better than they would if they were at the mercy of a few big timber merchants. In the South Thána Division sales of coupes to meet the requirements of the Tánsa Dam and Duct Line contractors, Messrs. Glover and Company and Messrs. Walsh, Lovett, Mitchell and Company, were effected, and these firms worked smoothly and in perfect harmony with the Forest Department throughout the year. The realizations of auction sales of coupes to them were Rs. 8,697 and Rs. 23,562 respectively. In all other divisions of the Northern Circle, the coupe system will be introduced gradually, *pari passu*, with working plans of the forests. The augmented revenue in the East Khándesh Division is due to increased sales on the permit system. On the contrary, there has been a falling off in the receipts of the West Khándesh Division, as the Bhils have not come forward so readily to purchase. In the divisions of Násik, Ahmednagar, Poona, Sátára and Sholápur no extensive sales are made of standing timber. In the Surat Division the sales of the Dáng timber were held very late, and there was a combination among the small number of purchasers who attended the sales, consequently very low prices were offered and inconsiderable sales were effected. In the Panch Mahals Division prices ruled high at auction sales of standing teak sold upon occupied lands.

(2).—Firewood.

160. The following statement exhibits the quantity of firewood, in cubic feet, removed from the forests of the Northern Circle by purchasers, either by contract, or on permits issued for their removal in cart-loads, &c., on payment of fees at their own cost, with revenue realised, as compared with the results of the past year :—

No.	Division.	Firewood in Cubic feet.		Receipts.	
		1888-89.	1889-90.	1888-89.	1889-90.
				Rs.	Rs.
1	North Thána	951,162	1,468,966	8,636	7,855
2	South Thána	568,100	905,787	1,198	1,354
3	East Khándesh	1,264,275	1,165,930	7,221	8,400
4	West Khándesh	1,439,669	456,950	3,880	3,119
5	Násik	43,120	62,697	1,490	1,474
6	Ahmednagar	6,844	13,335	641	743
7	Poona	29,380	910	1,673	2,415
8	Sátára	14,663	12,185	414	395
9	Sholápur	1,949	1,280	52	127
10	Surat	29,223	17,087	1,524	296
11	Panch Mahals	224,574	117,304	932	949
	Total ...	4,572,959	4,222,431	27,661	27,127

161. The receipts from this source for the whole Circle compare favourably with those of the preceding year.

(3).—Bámbus.

162. Bámbus were removed by purchasers and consumers from the forests of all the divisions of the Northern Circle, except Sholápur, where there are no bámbus at all, either by contract or on permits issued, on payment of fees for their removal in cart-loads, head-loads, &c., and the following table exhibits a comparison of the results of the year under report and the preceding one :—

No.	Division.	1888-89.				1889-90.			
		Bámbus removed.			Amount realised.	Bámbus removed.			Amount realised.
		Cart-loads.	Head-loads.	Number.		Cart-loads.	Head-loads.	Number.	
					Rs.				Rs.
1	North Thána	5,306	...	319,059	11,893	7,816	...	196,717	7,294
2	South Thána	221	2,631	155,746	3,543	338	3,295	187,757	4,196
3	East Khándesh	...	1,040	256,800	3,719	...	...	255,175	3,638
4	West Khándesh	...	...	256,772	2,563	15	...	235,908	2,882
5	Násik	91	831	178,407	4,004	65	849	145,592	3,838
6	Ahmednagar	...	...	33,441	342	...	...	26,195	263
7	Poona	...	...	169,849	1,753	...	...	136,821	940
8	Sátára	...	362	11,117	282	...	500	2,826	241
9	Surat	17	1,088	538,002	12,237	...	2,421	446,807	8,901
10	Panch Mahals	...	...	162,123	2,026	...	...	54,183	703
	Total ...	5,635	5,952	2,081,316	42,362	8,234	7,065	1,687,981	32,896

163. The decrease and increase in outturn and receipts depend upon the demand for the article, and the diminished revenue for the circle is owing to slack demands in the divisions of North Thána, Poona, Surat and Panch Mahals.

(4).—Other Minor Produce.

164. The following statement exhibits the realizations from minor produce, such as apta and tembhurni leaves, tarwad and shembi bark, honey, wax, fruits, stones, earth, karvi, &c., removed from the forests of the several divisions of the Northern Circle, by consumers and purchasers, as compared with the results of the last year :—

No.	Division.	Amount, 1888-89.	Amount, 1889-90.	Remarks.
		Rs.	Rs.	
1	North Thána	4,101	4,953	
2	South Thána	2,375	3,137	
3	East Khándesh	542	901	
4	West Khándesh	9,300	* 12,459	* Includes Rs. 10,502 for Rosha grass stills.
5	Násik	1,399	† 4,525	† Includes Rs. 2,029 for Hirdas.
6	Ahmednagar	1,418	1,170	
7	Poona	2,913	1,994	
8	Sátára	4,044	3,063	
9	Sholápur	530	321	
10	Surat	6,337	1,038	
11	Panch Mahals	2,193	159	
	Total ...	35,152	33,720	

165. In the two Thána Divisions the increase is due to better prices obtained for the apta and tembhurni, palas and palm leaves. There was a large demand for stones and for Rosha oil manufacture in the East and West Khándesh Divisions. In the Násik Division hirdás collected on share system fetched excellent prices. In all other divisions of the Northern Circle, except Panch Mahals, the demand for minor products during the year was not so great as in the year before. In the Panch Mahals Division no revenue, which had been estimated at about Rs. 2,000, was derived from mhowra flowers, as under Government Resolution No. 2439, dated 28th March 1889, in the Revenue Department, the villagers in the Godhra, Kálol and Hálol Ranges were allowed to take mhowra free of charge.

III.—FREE GRANTS OF FOREST PRODUCE.

166. The following is a comparative statement of free grants of timber, which have been made from forest reservations during the past three years, in the several divisions of the Northern Circle:—

No.	Division.	1887-88.	1888-89.	1889-90.
1	North Thána	44	340	73
2	South Thána	1,464	1,166	168
3	East Khándesh	16	.....	.....
4	West Khándesh	651	159	45
5	Násik...	521	368	267
6	Ahmednagar	34	4	297
7	Poona	93	817	539
8	Sátára	190	85	354
9	Sholápur	.....	.....	.....
10	Surat...	36	194	.....
11	Panch Mahals	998	307	193
	Total ...	4,049	3,440	1,936

IV.—PRODUCE REMOVED BY RIGHTHOLDERS AND UNDER PRIVILEGES.

167. No rights, save of way and water access, have been found by the Forest Settlement Officers to exist in respect of any of the forests of the Northern Circle, which have come under their judicial investigations and proceedings, and consequently rightholders have no *locus standi* in the forests. The value of the forest produce removed under privileges is very considerable, indeed, particularly in those forests where a few kinds of trees are reserved and

the remaining trees are given to the people to cut and take, as the exercise of privileges is not restricted to fixed times, is not limited in most cases to defined quantity, is not subjected to control such as would result from the introduction of a permit system, it is not possible to arrive at any correct knowledge of the value of the exploitations of timber, firewood, bámbus, ráb material, grass, fruits, flowers, &c., &c., &c., brought out of the forests free of charge by forest villagers, wild tribes and others, for domestic use, or for barter, or sale. The free pasturage enjoyed by cattle of forest villagers inside reserved forests, alone, represents a considerable income. As the entry of hypothetical figures in an administration report is objectionable, it would not be correct to enter an estimate, which might require six or seven figures to represent it, and it is needless to say that privileges, unregulated by conditions which forestry demands, are a direct consuming attack upon the capital value of the forests, and that the value of the damages done to the productive powers of the forests, added to the unrealised value of the produce removed or enjoyed free of charge, if worked out, would give a startling result.

V.—IMPORTS AND EXPORTS OF FOREST PRODUCE.

168. The following statement shows the imports and exports in the North Thána Division, as compared with the results of the past year :—

Range.	Imports.				Exports.					
	1888-89.		1889-90.		1888-89.			1889-90.		
	Timber Poles.	Firewood.	Timber Poles.	Firewood.	Timber Poles.	Firewood.	Bámbus.	Timber Poles.	Firewood.	Bámbus.
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	No.	C. ft.	C. ft.	No.
Sálsette	8,220	31,807	...	...	3,111	5,675	...	...	8,925	...
Bassein	...	...	...	...	...	253,975	6,326	57,574	339,463	...
Máhím	...	...	...	...	210,102	436,612	66,777	156,981	425,063	...
Dáhánu	...	...	...	...	330,843	155,762	169,019	702,915	359,737	407,559
Umbargaon	...	5,375	...	9,437	34,131	95,139	...	...	9,225	...
Váda	...	...	...	...	129,822	22,437	...	36,207	45,412	...
Total ...	8,220	37,182	...	9,437	708,009	969,600	242,122	953,677	1,187,825	407,559

169. The import trade of timber and other produce in the eastern portion of Khándesh was not great during a part of the year, owing to the forests in foreign territory bordering upon the frontiers of the division having been closed against teak and tiwas exploitation, and consequently the amount of duty collected upon foreign timber is only Rs. 12,386 as against Rs. 13,551 of the preceding year.

170. In the western portion of Khándesh, although the import trade is large, still it declined considerably owing to prohibitions enforced upon the removal of certain species of timber, and to enhanced fees levied upon other kinds in the adjoining forests of the Barwani, Mowas, Gaikwari and Indore states, and therefore, the duty collected amounted to Rs. 15,051 only, while Rs. 18,307 were realised the year before.

CHAPTER V.

FINANCIAL RESULTS.

171. Last year's financial results were the highest on record, but those of this year have considerably surpassed these figures also, and have thus more than maintained the financial prosperity of the Circle, as will be seen from the following comparative statement :—

Years.	Receipts.	Expenditure.			Net Revenue.
		A. Conservancy and Works.	B. Establishments.	Total.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1888-89	11,60,768 8 5	2,41,836 7 4	4,85,575 12 5	7,27,412 3 9	4,33,356 4 8
1889-90	11,85,540 5 4	2,18,518 11 3	4,86,838 7 10	7,05,357 3 1	4,80,183 2 3
Increase ...	24,771 12 11	.....	1,262 11 5	.....	46,826 13 7
Decrease ...	.....	23,317 12 1	.....	22,055 0 8	.....

172. The distribution of receipts among the several divisions of the Northern Circle, as compared with those of the past year, is given in the following statement :—

No.	Division.	1888-89.	1889-90.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	103 15 11	19 3 0	.....	84 12 11
2	North Thána	2,25,878 13 9	2,67,025 4 10	41,146 7 1	.....
3	South Thána	2,04,454 15 3	1,99,819 12 7	.....	4,635 2 8
4	East Khándesh	93,628 12 0	97,968 13 7	4,340 1 7	.....
5	West Khandesh	1,28,172 6 7	1,66,853 8 0	38,681 1 5	.....
6	Násik	93,379 15 2	89,107 11 9	.....	4,272 3 5
7	Ahmednagar	55,145 15 10	42,358 14 11	.....	12,787 0 11
8	Poona	1,01,909 4 2	97,961 7 1	.....	3,947 13 1
9	Sátára	85,356 2 5	75,858 5 4	.....	9,497 13 1
10	Sholápur	24,646 15 2	19,345 14 3	.....	5,301 0 11
11	Surat	99,807 12 3	68,094 1 11	.....	31,713 10 4
12	Panch Maháls	48,283 7 11	61,127 4 1	12,843 12 2	.....
13	Working Plans	.....	.....	.....	.....
	Total ..	11,60,768 8 5	11,85,540 5 4	97,011 6 3	72,239 9 4

173. It will be seen that the increase in revenue in the divisions of North Thána, East and West Khándesh and Panch Maháls, has more than counterbalanced the decline in other divisions, leaving a net increase of Rs. 24,771-12-11 over the actuals of last year. In the North Thána Division the coupe system of sale of standing timber, to be felled and removed by purchasers, at their own cost, is being better understood, the competition for buying coupes is becoming keener, and consequently the coupes sold during the year realised advanced prices. The decline in South Thána is due to the departmentally felled material remaining on hand unsold at the close of the year, as the villagers do not apparently approve of a large public department entering into retail shopkeeping; and in this they show their wisdom. The increase in the two Khándesh Divisions is due to brisk sales of teak rafters and to higher prices offered for firewood and for contracts for the distillation of Rosha grass oil. The decrease in the Násik Division is due to the expected sales of teak trees in Málki numbers not having come off. In the Ahmednagar Division the diminished revenue is accounted for by the fact that, last year closed portions of reserves were thrown open to cattle on payment of fees in order to relieve the distress arising from the scarcity of fodder, and consequently the grazing receipts, which affected the total revenue, were abnormally high, while no closed reserves have been opened to grazing this year. In addition to this cause a larger forest area, the grass crop of which is valued at Rs. 1,500, was placed at the disposal of the Commissariat Department for the supply of cut hay and fodder grass. The revenue in the Poona Division is less than that of the last year by a small sum of Rs. 3,948, which is owing to the very much larger tracts of reserved forests having been made available to the Commissariat Department at Poona, for the supply of hay to Government cattle and horses belonging to the Military Department at Poona and Kirkee; an unusually indifferent crop of hirdás also contributed to the fall. In the Sátára Division the greater part of the decrease is attributable to the very bad hirda crop owing to hail and rain storms, which knocked the young fruits off the trees when ripening. Although the receipts in the Sholápur

Division are less than those of the preceding year, still compared with the Budget figures they are satisfactory. The opening of large tracts of closed forests to grazing, as an exceptional and temporary arrangement, augmented the revenue during 1888-89, while no such adventitious additions to revenue occurred during the year. The falling off in the gross receipts of the Surat Division is attributable to the large stock of teak timber from the Lower Dángs remaining unsold at the close of the year, through combinations on the part of dealers, measures for the defeat of which are being taken. The sales of stock on hand at the commencement of the year, together with the fact that high prices ruled the auction-sales of standing teak during the year, explain the increase to be perceived in the gross receipts of the Panch Mahál Division.

174. The following statement exhibits the distribution of expenditure under "A. Conservancy and Works" among the several divisions of the Northern Circle, as compared with that of the past year:—

No.	Division.	1888-89.	1889-90.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	1,000 8 3	720 12 3	.....	279 12 0
2	North Thána	18,839 4 4	21,032 3 5	2,192 15 1	.....
3	South Thána	44,241 4 0	41,110 13 10	.....	3,130 6 2
4	East Khándesh	16,293 0 3	9,003 3 6	.....	7,289 12 9
5	West Khándesh	17,082 5 2	18,498 14 6	1,416 9 4	.....
6	Násik	29,529 3 10	10,179 9 3	.....	19,349 10 7
7	Ahmednagar	11,808 1 0	12,456 11 10	648 10 10	.....
8	Poona	25,876 12 0	30,403 1 3	4,526 5 3	.....
9	Sátára	28,693 5 4	18,832 1 5	.....	9,861 3 11
10	Sholápur	4,522 1 2	7,845 5 1	3,323 3 11	.....
11	Surat	22,074 7 8	28,565 3 4	6,490 11 8	.....
12	Panch Mahals	3,770 8 7	2,710 13 7	.....	1,059 11 0
13	Working Plans	18,105 9 9	17,159 14 0	.....	945 11 9
	Total ...	2,41,836 7 4	2,18,518 11 3	18,598 8 1	41,916 4 2

175. The increase of expenditure in some of the divisions amounting to Rs. 18,598 is more than covered by decrease in others, the balanced account showing a net decrease of Rs. 23,317-12-1 upon the actuals of the preceding year. The increase in North Thána is mainly due to arrear payments on account of remuneration to village officers for collecting forest revenue since 1879. The decrease in South Thána is attributable to smaller amount expended on payment of compensation for lands, required for the protection of the Tánsa Lake catchment. No expenditure was incurred in the East Khándesh Division for acquiring occupied lands for forests in the year of the report, while large payments were made in the preceding year. The increase in the office establishment of the Forest Settlement Officer has augmented the expenditure in the West Khándesh Division. The large decrease in Násik is due to the reduction in forest survey charges. In the Ahmednagar Division the increase is inconsiderable, and was caused by the purchase of barbed wire for fencing purposes. The debit of Rs. 11,382 on account of forest survey has increased the expenditure of the Poona Division. The decrease of Rs. 9,862 in the Sátára Division is due, to some extent, to smaller expenditure in the purchase of hirda and shikákái, and to the full amounts provided for under VIII *b.* and *d.* not having been expended during the year. In the Sholápur Division the increase was caused by the purchase of material for wire fencing, and by more extended operations in erecting live fences and eradicating prickly pear. In the Surat Division the increase is principally due to departmental operations, both in the Dángs and Mándvi Range, having been undertaken on a larger scale, and to the cost incurred on floating timber from Khedpur to Fulpara upon the Tápti river. In the Panch Mahál Division less expenditure on departmental fellings of timber and firewood, and the reduction in the office establishment of the Forest Settlement Officer, are accountable for the decrease. The decrease in the Working Plans Division is inconsiderable, and is due to savings in the entertainment of temporary field establishment.

176. The figures of expenditure under B. Establishments during the year, which exhibit an increase of Rs. 1,262 only, over the results of last year, call for

no special remark, fluctuations in pay and allowances of officers are the causes of the differences which appear. But the excess is due entirely to a sum of Rs. 1,784 having been debited to the accounts of the Northern Circle, on account of payments made in Bombay to Forest officers of other provinces; although this charge has no connection whatever with the expenditure of the Northern Circle. The result has been to reduce the surplus revenue of the Northern Circle, otherwise the net revenue of the Northern Circle would be exhibited as Rs. 4,81,967 in place of Rs. 4,80,183.

CHAPTER VI.

GENERAL REMARKS.

177. Leaving the Akola Dángs in the Ahmednagar Division the Conservator walked down into the Junnar Taluka of the Poona Collectorate, through the Harischandragad forests, and his camp was at Khireshwar on the 1st April 1889, where Mr. R. C. Wroughton, the Divisional Forest Officer, Poona, joined him, and the Syhádri forests about the Málsej Ghát and the head-waters of the Mina were inspected. The forest boundary upon these hills is taken far up the slopes to the foot of the first scrap, and all below that limit is periodically shaved to provide ráb material, and also for a wretched inferior cultivation carried on *in situ* with the bill-hook and fire. The cultivation areas in the plains below at the head of the valley are of exceptionally good soil, and grow wheat almost to the verge of the Ghâts; and the afforestation of the lower belt of the steep hills draining on to them is all that is required to enhance the productiveness of the flat lands. While encamped at Nirgudi in the Mina valley, about 3 miles from Junnar, a word was received from the Forest Guards below the Ghâts in the Murbád Táluka of the Thana Collectorate, that Koli villagers of Bhiwri, Inglun and Ámboli, above the Ghâts, in the Junnar Sub-division, had descended the Amboli Ghát in a body and made a raid upon the Government forests below in the Murbád Range, and that they had rolled rocks and stones down upon the Murbád Forest Guards who had detected their proceedings, &c., and had attempted to catch them. The Conservator accordingly with the Divisional Forest Officer, Poona, and the Range Forest Officer, Junnar, visited the timber market at Junnar, the next morning, and apprehended 20 Kolis bringing freshly cut stolen timber, such as the private lands and Government forests above the Syhádris at the head of the Mina valley cannot produce, and could only have come from the reserved forests in the Konkan; these men were taken before the Magistrate, who took bail at once from them to the extent of Rs. 25 each, and the names of 34 other villagers, who were detected conveying similarly stolen timber, were recorded; and the Divisional Forest Officer of South Thána was instructed to take proceedings under the Forest Act against the offenders. And a report was made to the District Magistrate of Poona, Mr. East, who at once instructed the Police Department of his Collectorate to adopt preventive measures against similar raids in the future. The 20 Kolis, who had been arrested and bailed, were tried by the Subordinate Magistrate of Murbád, in the Thána Collectorate, some months afterwards, and were convicted and sentenced to a fine of Rs. 2 each. The District Magistrate of Thána informed the Conservator that in reviewing the 3rd class Magistrate's calendar he had stated that the sentences were too light and that the men should have been imprisoned. The Conservator then marched with Mr. Wroughton over several cross ranges of hill abutting from the Syhádris, through the Junnar, Ámbegaon, Khed and Mával Forest Ranges, when teak and other forests were daily inspected and coupes were visited. After the Easter vacation camp was rejoined at Lingmala in the Mahábaleshvar Range of the Sátára Division, to which it had moved in the meanwhile, when the forests all round were visited with local Forest officials: and with the Commissioner, C. D., and the Collector of Sátára, the Conservator made a detailed inspection of the forest and other lands immediately surrounding the station of Mahábaleshvar, the far-famed health resort of Western India. From this place the Conservator marched through a portion of the Wái and Koregaon tálukas of the Sátára District, to the Purandhar Range of the Poona District, inspecting the forests of these ranges, and

he walked over the forests upon the slopes of the Purandhar Fort hills, and visited the Collector at Purandhar. This place is the principal sanitarium of the great military station, Poona; it is perched up high on the top of the hill, and in the interests of this health resort, if for no other reason, it is highly important to maintain the sides of the mountain, which are very steep, efficiently protected by a dense growth of timber. From Purandhar the Conservator's camp proceeded to Poona for the rainy season, while he went to Mátherán to inspect the forests of that health resort, the second in estimation in Western India, and which is largely frequented by visitors from the city of Bombay. The Divisional Forest Officer with the local Forest officials met the Conservator in order to concert measures for the protection of the forests, and the punishment of a large body of Thákurs, who, despite frequent warnings, had deliberately cut down trees and cleared forest lands for dálhi cultivation upon the sides of Mátherán. The Collector, who was at Mátherán, was visited and the forest matters of the Collectorate were discussed, as also the treatment of the case against the Thákurs of the villages surrounding Mátherán. These men were eventually prosecuted, convicted and sentenced to punishments of imprisonment for varying periods of time and to fines. This sharp, but by no means unduly severe, disposal has had a very wholesome effect. The cleared areas were sown and planted up with seeds and will be closed for regeneration for a long term of years.

178. In the month of November, the Conservator moved camp into the Mádha Range of the Sholápur Division, and inspecting the forests of that range proceeded to the Bársi Range, where he was met by the Divisional Forest Officer, Sholápur, Mr. Hornidge, with his office, which was examined. A detailed inspection of the forests in this and of the Karmála Ranges was made. The Conservator was very much pleased to see a fine young growth of timber, including teak trees, covering the slopes of the Yedshi Hills in the Bársi Range, and that reboisement has been very successful upon the catchment slopes of the Koregaon Lake. Teak and other junglewood trees are seeding in these places, and consequently if protection continues to be good, as at present, which no doubt it will, reafforestation with good timber may be regarded as a certainty, without further expenditure in sowing or planting. The Conservator was also gratified to see that the bábul reserves of the Bársi, Mádha and Karmála Ranges have improved very rapidly and contain a valuable and promising young growth of timber, and that the water-sheds and uplands, which have been placed under forest reservation only since the Deccan famine and have been treated very simply and inexpensively for reboisement, are thickly overgrown by thorny and other bushes interspersed with trees. Where the ground was perfectly bare a few years ago and only speargrass appeared during the rains, there is now an excellent growth of young trees; and the fodder and pasturage are unsurpassable.

179. Leaving the Karmála Taluka of the Sholápur Division, the Conservator marched into the Karjat Táluka of the Ahmednagar Division, and crossing the Bhima river near Shirápur, in the Poona District, encamped at Gar in the Ahmednagar Division, by the middle of December. Here Mr. Wilkins, the Divisional Forest Officer, Ahmednagar, and Mr. R. C. Wroughton, Divisional Forest Officer, Poona, joined the Conservator's camp with their offices, which were examined, and the forest matters of the two divisions were discussed; and reserved forests under systematic working and other forest lands were visited daily, while the Conservator's camp was moving up the Bhima valley, through the bábul forests of the Sirur Range, to Poona for the Christmas vacation. Colonel Pullan, Superintendent of Forest Surveys, was visited by the Conservator at Párgaon, who conferred with him about the surveys of the bábul reserves upon the 16″ scale in the Bhimthadi Range, and inspected some of the maps which had been done recently.

180. After the Christmas vacation the office opened at Bhusával in the East Khándesh Division, to which place it had gone by railway in the meanwhile, and the Conservator marched through the forests of this range into the Edlabad Range, and encamped at Ghodasgaon, on the banks of the Purna river. Inspecting the Transpurna reserved forest and the bábool felling operations undertaking therein, and crossing the Tápti river near Ainpur, the Conservator encamped at Ráver, where he was met by Mr. F. R. Desái, Deputy Conservator of Forests, 1st

grade, and Divisional Forest Officer, East Khándesh, when the divisional office accounts and records were examined. And sending their heavy camps and offices by cart road below the hills to Virwada, in the Chopda Range, the Conservator and the Divisional Forest Officer travelled through the Sátpuda Hill forests of the Ráver, Sávda, Yával and Chopda Ranges of the East Khándesh Division, from Pal in the east to the Aner beyond Umarti on the West. Tents and all equipment had to be transported by pack bullocks through these wide-stretching forests. A young crop of beautiful anjan saplings is restocking the ground in the reserved forests round Pal, and its surrounding settlements of Jinsi and Morwal in all directions; and the Sátpuda forests of Khándesh, except where the exercise of privileges is retarding development, are improving wonderfully. If these forests were properly treated, they would become an inexhaustible source of wealth and a wide field for the employment of labour and for the promotion and maintenance of industries. It would be of advantage if a cart-road could be made through the hills east and west from the Pal Settlement on the one side, to near Virwada on the other, with other cart-roads to lead down from the hills into the plains of the Tápti valley, by the way of the Kharkhana and other ghâts. By opening out communications in the Sátpudas, a very extensive source of grass supply will be made accessible to the champaign country, both north and south of the Tápti, where grass is in request, and where a grass famine frequently prevails. Timber and firewood, at present shut up, will become exploitable, the forests will be brought under systematic working, timber trade will be stimulated, giving employment to the local labour skilled in timber operations, and forest revenues will go up concurrent with the increased augmentation of the capital value of the forest: provided always that promiscuous exploitations under the exercise of depleting privileges are put a stop to.

181. It was most refreshing to see fire conservancy almost perfect on the British side of the frontier line, while Holkar's forest lands were completely searched by constant fires; and it was not unpleasant to walk and ride through a sea of excellent grass. The Conservator walked the Suka river from Manjel to its rise, and followed the Aner river from its first springs to Umarti and found that both rivers contain surface water in constant pools and almost continuous flow.

182. Leaving the East Khándesh Division by the end of January the Conservator entered the Shirpur Sátpudas of the West Khándesh Division, and after inspecting the forests in this range and the timber brought to temporary depôt for sale, he marched through the Sháháda Sátpudas and through a corner of the Badwari State *viâ* Pansemal, and encamped at Fatepur in the Sháháda Range, where Mr. Fagan, the Divisional Forest Officer, West Khándesh, joined him. Some of the timber felled in Bhil settlements in the Sháháda and Akráni Ranges was inspected, in company with Mr. Fagan, and after examining the divisional office accounts and records, the Conservator marched westward into the Taloda Range, leaving Mr. Fagan at Fatepur to complete the auction sales of the felled timber in the Akráni and Sháháda Ranges. After inspecting some forests and some works in the Taloda, Nandurbár, Nizámpur and Pimpalner Ranges of the West Khándesh Division, the Conservator moved camp into the leased Dángs, *viâ* Zakriabari, and encamped for a short time at Khubeta in the Garvi Dángs, where the timber explotitation operations of the contractors working on behalf of the Department were inspected. From Garvi Dángs the Conservator proceeded into the Pimpri Dángs and thence to Waghai, where he was met by the Divisional Forest Officer, Mr. R. H. Mádan, who was appointed to the Surat Division during the absence of Mr. W. S. Hexton, who was on leave. On arriving at Waghai the Divisional Forest Office accounts and registers were examined, and in company with Mr. Mádan the forests in the vicinity of Waghai and the Waghai depôt were examined.

183. Leaving the Waghai Dángs by the 5th of March, the Conservator marched through the Bánsda State and the Chikhli Táluka of the Surat Division and encamped at Bilimora; he then proceeded to Godhra with part of his office establishment, and directed the office camp to be removed from Bilimora to Pálghar in the North Thána Division. After examining the Divisional Forest Office, Panch Maháls, the Conservator returned back to Pálghar, and while

inspecting the forests in the Máhim Range was met by Mr. Fry, the Divisional Forest Officer, Working Plans, at Sophála, who accompanied the Conservator up to the close of the year, during which period some of the blocks and compartments were examined in this as well as the Sálsette Ranges; and the Conservator's camp was at Bhándup in the Sálsette Range of the North Thána Division on the 31st March 1890.

184. During his tour of inspection, the Conservator examined the Divisional Forest Offices of Sátára, Sholápur, Ahmednagar, Poona, East and West Khándesh, Surat, Panch Maháls and Working Plans, and found them in good working order.

185. The North Thána Forest Division was under Messrs. A. D. Wilkins and F. Gleadow, from 1st April to 31st October and 1st November to 31st March, respectively; and both these officers deserve much credit for their able and efficient management. Mr. Gleadow speaks in commendatory terms of Messrs. Baptista and Robinson, Sub-division Officers. The Collector records that "Mr. Gleadow's report is most creditable to his ability and devotion," and the Conservator would add that Mr. Gleadow's zeal and knowledge of his profession are conspicuous.

186. Mr. G. P. Millett, Divisional Forest Officer, South Thána, has discharged his duties in a highly satisfactory manner; and the Collector of the district has recorded that his progress report shows a clear understanding and a minute knowledge of the difficulties in the way of improved conservancy. Messrs. R. H. Mádan and J. H. Clabby, who were his Sub-division Officers during the year, have also, he reports, worked energetically and conscientiously.

187. Mr. F. R. Desái, Deputy Conservator of Forests, 1st grade, merits acknowledgment for his good work and the constant attention to his duties in East Khándesh. The Collector, Mr. Loch, C. S., has recorded that "the result of the year's work in East Khándesh has been satisfactory; both the gross and net revenue have been increasing steadily for the past four years, and there is every reason to hope that, if the division remains under the charge of an experienced and energetic officer like Mr. Desái, the improvement will continue."

188. The West Khándesh Forest Division was in charge of Mr. R. S. Fágan, who has also earned the acknowledgments of the Collector in the following words:—

"The undersigned has on former occasions expressed his opinion of Mr. Fagan's efficiency as a Forest officer. He will only now say that Mr. Fegan has worked as zealously and successfully as before, though his health has at times been far from satisfactory."

The Conservator fully endorses these opinions, for Messrs. Desái and Fagan are very zealous officers with great devotion to duty. Mr. Fagan reports that Mr. G. S. Hingé, his Sub-division Officer, has been energetic and has given him much assistance.

189. Mr. W. G. Betham, Deputy Conservator of Forests, 2nd grade, has administered the Násik forests in a satisfactory manner. He commends his Sub-division Officer, Mr. Wallinger, for having worked with energy, zeal and activity.

190. Mr. Horatio Mainwaring was Divisional Forest Officer, Ahmednagar, from 1st April to 31st October 1889, on which date he proceeded to Europe sick, and the Conservator has thereby been deprived, for a time, of the cordial help of a zealous and intelligent officer. Mr. Wilkins, who succeeded Mr. Mainwaring, has administered the forest division with his wonted vigour and energy. The Acting Collector of the district remarks that "the affairs of the Department appear to have been carried on very satisfactorily during the year."

191. Mr. R. C. Wroughton, Divisional Forest Officer, Poona, has continued to earn the acknowledgments of the Conservator by a conscientious performance of his duties, and speaks favourably of Mr. W. R. Gaundé, his Sub-division Officer.

192. The Collector of Sátára, Mr. R. E. Candy, C.S., writes:—

"He believes that Mr. Greatheed is a most conscientious worker and has done his very best to grapple with the mass of work which falls to the lot of a Forest officer in this very extensive division."

And Mr. H. E. Winter, C. S., in forwarding the report of the Sholápur Division has remarked :—

"The report is exceedingly interesting and shows that Mr. Hornidge has given careful personal attention to every branch of his important charge."

While the Collector of the Panch Maháls has recorded a very high opinion of Mr. Keys, the Divisional Forest Officer, Panch Maháls, who has been very successful in the management of his charge: the Conservator concurs thoroughly with the Collector upon this point.

193. Mr. T. B. Fry, Divisional Forest Officer, Working Plans, is an excellent Forest officer, as active and energetic in the forests as punctual and careful in office; and has been of great assistance to the Conservator and to the Divisional Forest Officers of Thána, more particularly.

194. The Collectors of the several districts, composing the Northern Circle, take active participation in the administration of the forest business of the Circle, and the Conservator must acknowledge the very ready and courteous assistance and consideration he has received from them at all times. Mr. East, in Poona, Mr. Loch in Khándesh, Mr. Porteous in Thána, Mr. Campbell in the Panch Maháls, Mr. Candy in Sholápur, Mr. Winter in Sátára, are ever ready to co-operate in the furtherance of forest interests and to support this Department, as far as may be possible, in their judgment with due regard to other conflicting interests.

195. The Superintendent of Forest Surveys, Colonel Pullan, and his officers have also performed excellent work for this Department and deserve special mention.

196. Of Range Forest Officers, Rangers Hassan Ali Mahomed Ali and Shaik Abbas in North Thána; Mr. Govind Rámchandra Takle in South Thána; Abdul Rasul, Ranger of Chopda in East Khándesh; and Forester Dildár Ali in West Khándesh; Rangers Shitárám Hari Waze, Rámchandra Rawji Bodwadkar and Lakshman Bhiwji Pápde in Násik; Rangers Vishnu Mahádeo Tilak and Báláji Dhondeo Dhekne in Poona; Mr. Keshav Pándurang Kavthekar in Sátára; Mr. Walabhrám Mulji Bhat in Surat and Mr. Dámodar Moreshwar Deuskar in the Panch Maháls, are specially brought to notice for constant, zealous, intelligent and satisfactory performance of duty: and these officers, considering the arduous nature of their duties and the heavy responsibilities placed upon them, richly deserve to have their names prominently mentioned in the Forest Administration Report of the Circle.

197. The Conservator has much pleasure in testifying to the good work done by Messrs. Krishnáji Bábáji Phadke, Keshav Ganesh Vaidya, Mahádeo Náráyan Gokhale and Krishnáji Vyankatesh Lohokare in his office and by Messrs. Shivrám Bhikáji Rángnekar, Trimbark Bhikáji Lawháte, Dámodar Tukárám Salsingikar, Nimráj Keshav Chándekar, Bálkrishna Gopál Kher, Trimbak Govind Mahájan, Govind Sitárám Rájurkar, Anáji Gopál Mujumdár and Vyankatesh Hari Shikhare, who have been recommended by the Divisional Forest Officers for satisfactory performance of their duties. Where clerks in their own humble spheres do their best in willing, ungrudging service, working, very often, after regular office hours, to promote a satisfactory administration, it would be as ungracious as impolitic to avoid according to them such a very small measure of distinction as prominent mention of their names in this history.

198. In the Forest Class attached to the College of Science, Poona, four students were admitted in the junior class in January 1890 and one passed the final examination in September 1839.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 31st October 1890.

FORM No. 49.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Reserved Forests, 1889-90.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in Square Miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and Date of Notification of addition or transfer.	Remarks.
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		192,016	300 16	*(a) 46,182	(b) 97	238,101	372 21	(a) Nos. 4347 17-6-89, 8608 12-11-89.	* Out of this area, 42,429 acres represent rectification of area.
									(b) Nos. 2531 1-4-89, 9321 10-12.89.	
South Thána ...			209,301	327 21	†(c) 71,028	...	280,329	438 9	(c) Nos. 8608A 12-11-89, 8608B 12-11-89, 8608C 12-11-89, 4036 4-6-87, 8675 14-11-89.	† Out of this, 69,588 acres represent rectification of area.
East Khándesh ...	Khándesh ...		511,840	799 480	...	(d) 1,208	510,632	797 552	(d) No. 1962A 17-3-90.	
West Khándesh ...			792,616	1,238 296	(e) 108	‡(f) 25,513	767,211	1,198 491	(e) No. 7262 27-9-89. (f) Nos. 8949 26-11-89, 9711 23-12-89.	‡ Out of this, 25,028 acres represent rectification of area.
Násik	Násik		817,828	1,277 548	§ (g) 933	‖ 55,613	763,148	1,192 268	(g) Nos. 8925 25-11-89, 8928 25-11-89, 2668 8-4-89, 3169 30-4-89, 6289 27-8-89, 1537 26-2-90.	§ Out of this, 349 acres represent rectification of area. ‖ Retification of area.
Ahmednagar ...	Admednagar ...		549,731	858 611	(h) 3,786	(i) 74	553,443	864 483	(h) Nos. 8040 24-10-89, 1960 17-3-90.	
Poona	Poona		473,748	740 148	(j) 4,741	(k) 3,102	475,387	742 507	(i) Nos. 4729 3-7-89, 3567 15-5-89.	
Sátára	Sátára		426,241	666 1	¶ (l) 10,309	(m) 57	436,493	682 13	(j) Nos. 7346 30-9-89, 8384 4-11-89, 3546 15-5-89, 7344 30-9-89, 7345 30-9-89, 2791 8-4-89, 5052A 16-7-89.	¶ Out of this, 19 acres represent rectification of area.
Sholápur	Sholápur ...		174,526	272 446	(n) 2,716	...	177,242	276 602	(k) Nos. 2918 17-4-89, 9319 10-12-89, 9709 23-12-89, 3499 13-5-89, 6285 26-8-89.	
Surat	Surat		44,284	69 124	...	** (o) 644	43,640	68 120		** Out of this, 495 acres represent rectification of area.
Dángs			434,240	678 320	...	...	434,240	678 320	(l) Nos. 1095 13-2-90, 1182 15-3-90.	
Kaira	Kaira		39	0 39	...	...	39	0 39	(m) No. 1158 12-2-90.	
Panch Mahals ...	Panch Mahals ...		117,297	183 177	(p) 1	(q) 55	117,243	183 123	(n) No. 6691 9-9-89.	
Ahmedabad ...	Ahmedabad ...		21,878	34 118	...	†† (r) 316	21,562	33 442	(o) Nos. 7746 14-10-89, 6211 22-8-89.	†† Out of this, 24 acres represent rectification of area.
									(p) No. 791 31-1-90. (q) No. 792 31-1-90.	
		Total ..	4,765,585	7,446 145	139,804	86,679	4,818,710	7,529 150	(r) No. 4724 3-7-89.	

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

B 911—13 NC

FORM No. 49A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Protected Forests, 1889-90.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		189,280	295 480	*22,198	(a) 262	211,216	330 16	(a) Nos. 3507 13-5-89, 5727A 7-8-89, 7597 9-10-89, 5727 7-8-89.	* Rectification of area.
South Thána ...			225,664	352 384	...	† 6,406	219,258	342 378		† Do. do.
East Khándesh ...	Khándesh ...		34,081	53 161	...	...	34,081	53 161		
West Khándesh ...			124,951	195 151	...	...	124,951	195 151		
Násik	Násik		...	...	...	...	...	...		
Ahmednagar ...	Ahmednagar ...		7,154	11 114	...	...	7,154	11 114		
Poona	Poona		...	...	...	...	...	...		
Sátára	Sátára		28	0 28	‡ 619	(b) 16	631	0 631	(b) Nos. 6073 19-8-89, 1687 3-3-90.	‡ Rectification of area.
Sholápur	Sholápur ...		...	...	...	...	...	...		
Surat	Surat		...	...	...	...	...	...		
Dángs			...	...	...	...	...	...		
Kaira	Kaira		...	...	...	...	...	...		
Panch Mahals .	Panch Mahals ...		89,045	139 85	...	(c) 449	88,596	138 276	(c) No. 5742 7-8-89.	
Ahmedabad ...	Ahmedabad ...		...	...	...	...	...	...		
		Total ...	670,203	1,047 123	22,817	7,133	685,887	1,071 447		

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 50.

Forest Department, Bombay, Northern Circle.

Register of breaches of Forest Rules during 1889-90.

Forest Division and Civil District.	Cases pending from 1888-89.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to Forest by fire.	Unauthorized Felling or appropriation of Wood and minor Forest Produce.	Grazing without permission or in tracts in which Grazing is prohibited.	Other Offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
North Thána	...	1	102	...	3	106	106	84	232	22	45	106	277	...
South Thána	14	2	150	1	47	200	214	174	690	34	96	208	786	6
East Khándesh	2	8	107	8	255	378	380	349	449	22	34	371	483	9
West Khándesh	20	27	38	3	103	171	191	172	316	14	58	186	374	5
Násik	14	3	45	6	55	109	123	86	130	19	52	105	182	18
Ahmednagar	6	...	23	37	7	67	73	41	114	18	60	59	174	14
Poona	33	1	76	105	28	210	243	159	336	57	192	216	528	27
Sátára	1	...	12	9	6	27	28	14	16	13	33	27	49	1
Sholápur	18	...	11	86	19	116	134	73	164	45	163	118	327	16
Surat	...	...	9	...	1	10	10	6	10	2	8	8	18	2
Panch Mahálś	...	...	37	1	...	38	38	30	62	7	25	37	87	1
Total ...	108	42	610	256	524	1,432	1,540	1,188	2,519	253	766	1,441	3,285	99

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 51.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Forest Tracts protected from Fire during the Dry Season.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1889.	During the Dry Season of 1890.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
North Thána ...	Sálsette	1878-79 ...	16,976	15,691	1,099	14,592	93	
	Bassein...	,, ...	40,676	54,617	2,104	52,513	127	
	Máhim	,, ...	99,495	127,345	1,169	126,176	373	
	Dáhánu...	,, ...	122,118	122,524	649	121,875	291	
	Umbargaon	,, ...	38,156	38,717	270	38,447	155	
	Váda	,, ..	41,523	90,453	2,750	87,703	142	
	Total ...	.....	358,944	449,347	8,041	441,306	1,181	
South Thána ...	Bhiwndi	1878-79 ...	44,386	48,034	3,073	44,961	77	
	Sháhápur	,, ...	68,116	85,170	3,319	81,857	110	
	Khardi	,, ...	79,312	72,735	2,948	69,787	92	
	Mokháda	,, ...	58,585	49,423	50	49,373	70	
	Kalyán	,, ...	28,769	115,072	2,059	113,013	70	
	Murbád...	,, ...	90,155	90,290	4,140	86,150	66	
	Karjat	,, ...	34,819	27,661	406	27,255	121	
	Khálápur	,, ...	16,909	18,024	317	17,707	77	
	Total ...	... ..	421,051	506,409	16,312	490,097	683	
East Khándesh...	Amalner	1878-79, ...	19,741	20,295	528	19,767	...	
	Páchora	,, ...	22,986	31,126	2,644	28,482	...	
	Bhadgaon	,, ...						
	Bhusával	,, ...	10,558	64,459	9,383	55,076	...	
	Edalabad	,, ...						
	Chálisgaon	,, ...	17,424	64,933	958	63,975	...	
	Chopda...	,, ...	134,065	114,832	3,875	110,957	...	
	Erandol	,, ...	12,169	17,602	2,579	15,023	...	
	Jalgaon...	,, ...	2,626	21,089	290	20,799	...	
	Jámner...	,, .	37,981	41,773	1,940	39,833	1	
	Ráver...	,, ...						
	Sávda	,, ...	34,320	186,364	5,775	180,589	69	
	Yával	,, ...						
	Total ...	.....	291,870	562,473	27,972	534,501	70	
West Khándesh	Dhulia	1878-79 ...	118,153	122,097	116	121,981	...	
	Nandurbár	,, ...	35,791	66,663	40,503	26,160	29	
	Nizámpur	,, ...						
	Pimpalner	,, ...	198,155	284,372	103,780	180,592	27	
	Navápur	,, ...						
	Sháháda	,, ...	.....	85,784	70,000	15,784	2	
	Shirpur...	,, ...	151,834	276,673	150,000	126,673	25	
	Sindkheda	,, ...	24,916	24,916	670	24,246	29	
	Taloda	,, ...	.....	290,383	225,676	64,707	32	
	Akráni	,, ...						
	Total ...	.....	528,849	1,150,888	590,745	560,143	144	
Násik	Násik	1878-79 ...	43,055	43,970	50	43,920	...	
	Igatpuri	,, ...	53,821	53,948	339	53,609	...	
	Sinnar	,, ..	35,366	35,371	...	35,371	...	
	Dindori...	,, ..	54,969	.....	...	...	...	
	Niphád	,, ...	3,446	3,446	...	3,446	...	
	Chándor	,, ...	24,948	24,940	16	24,924	...	
	Yeola	,, ...	31,492	31,496	76	31,420	3	
	Báglán	,, ...	123,680	124,167	675	123,492	11	
	Kalvan	,, ...	100,178	109,364	4,949	104,415	...	
	Peint	,, ...	105,939	107,217	127	107,090	...	
	Málegaon	,, ...	121,804	122,105	126	121,979	...	
	Nándgaon	,, ...	107,066	107,303	2	107,301	...	
	Total ...	.. ...	805,754	763,327	6,360	756,967	14	

FORM No. 51—*continued.*

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to date.	During the dry season of			Cost during the year.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
		Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	
Ahmednagar	Nagar	1878-79 ...	41,583	41,880	...	41,880	...	
	Párner	,, ...	68,767	68,899	20	68,879	...	
	Shrigonda	,, ...	43,415	45,289	389	44,900	...	
	Karjat	,, ...	50,310	50,695	60	50,635	...	
	Jámkhed	,, ...	39,697	40,548	55	40,493	...	
	Shevgaon	,, ...	27,603	27,724	...	27,724	...	
	Nevása	,, ..	19,881	20,676	26	20,650	...	
	Ráhuri	,, ...	50,970	51,081	18	51,063	...	
	Kopargaon	,, ...	8,889	9,042	...	9,042	...	
	Sangamner	,, ...	86,414	87,691	2	87,689	...	
	Akola	,, ...	109,649	119,987	247	119,740	...	
	Total ...	.....	547,178	563,512	817	562,695	...	
Poona	Junnar	1878-79 ...	55,193	61,075	2,754	58,321	...	
	Indápur	,, ...	62,493	62,467	45	62,422	...	
	Khed	,, ...	54,927	56,739	864	55,875	...	
	Ambegaon	,, ...	43,130	43,463	3	43,460	...	
	Sirúr	,, ...	20,235	20,841	120	20,721	..	
	Purandhar	,, ...	25,408	25,968	115	25,853	...	
	Bhimthadi	,, ...	53,826	54,245	8	54,237	...	
	Bárámáti	,, ...	20,031	20,135	66	20,069	...	
	Haveli	,, ...	49,728	50,137	57	50,080	..	
	Mulshi	,, ...	25,093	28,049	430	27,619	6	
	Mával	,, ...	54,084	54,816	331	54,485	68	
	Total ...	.....	464,148	477,935	4,793	473,142	74	
Sátára	Mahábaleshvar ...	1878-79 ...	40,516	41,412	60	41,352	8	
	Mán	,, ..	56,156	56,099	...	56,099	...	
	Khatáv	,, ..	16,503	16,503	...	16,503	...	
	Karád	,, ..	35,977	35,986	30	35,956	...	
	Wái	,, ...	24,892	24,892	17	24,875	...	
	Koregaon	,, ...	28,686	28,772	10	28,762	...	
	Sátára	,, ...	22,263	22,263	12	22,251	...	
	Tásgaon	,, ...	13,573	20,008	...	20,008	...	
	Khandála	,, ..	14,195	14,195	...	14,195	...	
	Jávli	,, ...	50,785	50,807	16	50,791	...	
	Khánápur	,, ...	30,425	30,428	17	30,411	...	
	Válva	,, ...	25,569	27,394	24	27,370	...	
	Shirála	,, ...						
	Pátan	,, ...	66,246	68,400	294	68,106	...	
	Total ...	.....	425,786	437,159	480	436,679	8	
Sholápur	Sholápur	1878-79 ...	37,305	38,310	258	38,052	...	
	Bársi	,, ...	8,484	8,536	7	8,529	...	
	Mádha	,, ...	30,164	31,401	313	31,088	...	
	Karmála	,, ...	50,479	50,996	...	50,996	...	
	Pandharpur	,, ...	5,873	6,094	...	6,094	...	
	Sángola	,, ...	17,757	20,473	...	20,473	...	
	Málsiras	,, ...	21,433	21,432	87	21,345	...	
	Total ...	.....	171,495	177,242	665	176,577	...	
Surat	Mándvi	1878-79 ...	32,457	41,069	15,000	26,069	...	
	Dángs	,, ...	144,747	434,240	200,000	234,240	...	
	Chikhli	,, ...	825	825	...	825	...	
	Bulsár and Párdi ...	,, ...	1,514	1,525	...	1,525	2	
	Bárdoli	,, ...	450	450	...	450	...	
	Total ...	... .	179,993	478,109	215,000	263,109	2	
Panch Maháls ...	Godhra	1878-79 ...	117,386	84,478	6,001	78,477	...	
	Kálol	,, ...	19,185	22,263	1,097	21,166	...	
	Hálol	,, ...	26,808	27,614	944	26,670	...	
	Dohad	,, ...	46,308	46,538	1,484	45,054	...	
	Jhálod	,, ...	23,367	26,872	3,791	23,081	...	
	Total ..	.....	233,054	207,765	13,317	194,448	...	
	Grand Total ...	.....	4,428,122	5,774,166	884,502	4,889,664	2,176	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

B 911—14 NC

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Plantations, 1889-90.

Division.	Name of Plantaion.	Area in Acres. On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Receipts Of the year.	Charges. Of the year.	Remarks.
	Regular Plantation.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
North Thána...	Sálsette	107	...	...	107	...	33	
	Bassein	1	...	...	1	...	...	
	Máhim	1,880	...	...	1,880	...	61	
	Dáhánu	2	...	...	2	...	11	
	Váda...	92	...	...	92	...	10	
	Umbargaon	127	1	...	128	...	173	
	Total ...	2,209	1	...	2,210	...	288	
South Thána...	Bhiwndi	336	...	...	336	..	...	
	Mokháda	12	...	2	10	...	...	
	Karjat	89	3	15	77	...	50	
	Sháhápur	30	...	...	30	...	300	
	Total ...	467	3	17	453	...	350	
East Khándesh	Amalner	1	...	1	...	...	...	
	Bhusaval	...	...	...	...	...	...	
	Chopda	1	...	1	...	...	...	
	Edalabad	...	...	...	...	...	...	
	Erandol	1	...	1	...	...	...	
	Jalgaon	...	...	...	...	...	...	
	Jámner	1	...	1	...	...	...	
	Páchora	...	...	...	...	...	...	
	Ráver	...	...	...	...	...	...	
	Sávda	6	...	6	..	...	...	
	Yával	...	...	...	...	...	...	
	Total ...	10	...	10	...	...	...	
West Khándesh	Akráni	11	5	...	16	...	37	
	Dhulia	...	...	...	...	...	175	
	Nizámpur	25	...	...	25	...	92	
	Pimpalner	2	...	..	2	...	91	
	Taloda	...	...	....	...	...	25	
	Total ...	38	5	..	43	...	420	
Násik	Násik	Nil	...	...	...	...	...	
Ahmednagar ...	Nagar Dongargaon ...	142	...	...	142	...	...	
Poona	Poona	Nil	...	...	...	...	...	
Sátára	Khatáv	253	18	...	271	...	108	
	Koregaon	238	...	...	238	...	51	
	Karád	270	11	...	281	..	13	
	Khandála	76	27	...	103	...	29	
	Válva	75	...	...	75	...	10	
	Sátára	68	...	...	68	...	40	
	Wái	205	40	...	245	...	20	
	Mán	154	3	...	157	...	55	
	Jávli	41	1	...	42	...	1	
	Mahábaleshvar	635	81	...	716	...	162	
	Tásgaon	296	6	...	302	...	21	
	Pátan	166	...	...	166	...	12	
	Khánápur	68	...	...	68	...	14	
	Shirála	26	...	...	26	...	...	
	Total ...	2,571	187	...	2,758	...	536	
Sholápur... ...	.....	Nil	...	...	...	...	...	
Surat	.....	Nil	...	...	...	...	...	
Panch Mahals ...	Kálol...	26	31	...	57	...	26	
	Total Regular Plantations..	5,463	227	27	5,663	...	1,620	
	Cultural Operations.							
North Thána...	Sálsette	309	202	..	511	..	65	
	Bassein	1,219	859	...	2,078	...	98	
	Máhim	1,544	1,432	...	2,976	...	120	
	Dáhánu	1,714	1,340	...	3,054	...	82	
	Umbargaon	359	427	...	786	...	143	
	Váda...	772	389	...	1,161	...	51	
	Total ...	5,917	4,649	..	10,566	...	559	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Receipts. Of the year.	Charges. Of the year.	Remarks.
		Acres.	Acres.	Acres.	Acres.		Rs.	
South Thána ...	Bhiwndi	575	140	...	715	...	51	
	Sháhápur	618	65	...	683	...	38	
	Khardi	256	112	...	368	...	31	
	Mokháda	166	90	...	256	...	74	
	Kalyán	835	207	...	1,042	...	60	
	Murbád	676	32	...	708	...	102	
	Karjat	220	1,544	...	1,764	...	694	
	Khálápur	668	791	..	1,459	...	279	
	Total ...	4,014	2,981	...	6,995	..	1,329	
East Khándesh	Amalner	2,126	24	...	2,150	...	...	
	Bhadgaon	272	50	...	322	...	...	
	Bhusával	1,636	128	...	1,764	...	...	
	Chálisgaon	492	50	...	542	...	...	
	Chopda	535	82	...	617	...	...	
	Edalabad	389	53	...	442	...	...	
	Erandol	5,010	50	...	5,060	...	...	
	Jalgaon	457	150	...	607	...	...	
	Jámner	647	318	...	965	...	12	
	Páchora	35	5	...	40	...	...	
	Ráver	142	45	...	187	...	...	
	Sávda	266	30	...	296	...	...	
	Yával	125	200	...	325	...	...	
	Total ...	12,132	1,185	...	13,317	...	12	
West Khándesh	Akráni	156	27	...	183	...	14	
	Dhulia	3,153	45	...	3,198	...	1,230	
	Nandurbár	818	12	100	730	...	42	
	Navápur	1,386	12	...	1,398	...	12	
	Nizámpur	511	14	50	475	...	72	
	Pimpalner	1,400	20	...	1,420	...	205	
	Sháháda	3,398	16	17	3,397	...	10	
	Shirpur	1,705	20	...	1,725	...	105	
	Sindkheda	5,962	123	...	6,085	...	685	
	Taloda	971	60	..	1,031	...	29	
	Total ...	19,460	349	167	19,642	...	2,404	
Násik	Násik	63	25	...	88	...	162	
	Igatpuri	200	114	...	314	...	209	
	Chándwad	260	371	...	631	...	185	
	Sinnar	294	...	...	294	...	102	
	Yeola...	1,927	211	...	2,138	...	592	
	Niphád	444	8	...	452	...	156	
	Dindori	142	22	...	164	...	80	
	Málegaon	1,458	195	...	1,653	...	647	
	Nándgaon	46	313	...	359	...	198	
	Báglán	80	30	...	110	...	74	
	Kalvan	33	2	...	35	...	50	
	Peint...	...	...	...	...	...	5	
	Total ...	4,947	1,291	...	6,238	...	2,460	
Ahmednagar..	Nagar	758	170	...	928	...	378	
	Párner	577	17	...	594	...	98	
	Shrigonda	1,053	338	...	1,391	...	109	
	Karjat	319	201	...	520	...	46	
	Jámkhed	1,821	116	...	1,937	...	76	
	Shevgaon	506	30	...	536	...	29	
	Nevása	190	10	...	200	...	68	
	Ráhuri	218	3	...	221	...	260	
	Kopargaon	376	126	...	502	...	45	
	Sangamner	1,518	108	...	1,626	...	116	
	Akola	88	10	...	98	...	63	
	Total ...	7,424	1,129	...	8,553	...	1,238	
Poona	Junnar	965	...	..	965	...	6	
	Indápur	2,815	650	...	3,465	...	241	
	Khed	6,188	...	...	6,188	...	1	
	Ambegaon	2,299	...	...	2,299	...	...	
	Sirúr...	5,757	97	...	5,848	...	224	
	Purandhar	5,950	23	...	5,973	...	7	
	Bhimthadi	3,621	76	...	3,697	...	300	
	Bárámati	2,037	38	...	2,075	...	235	
	Haveli	1,421	46	...	1,467	...	143	
	Mulshi	849	...	...	849	...	...	
	Mával	1,119	...	...	1,119	...	2	
	Plantation by Forest Guards	1,652	1,788	...	3,440	..	...	
	Total ...	34,667	2,718	...	37,385	...	1,159	

FORM No. 52—*concluded.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Receipts Of the year.	Charges. Of the year.	Remarks.
		Acres.	Acres.	Acres.	Acres.		Rs.	
Sátára ...	Mahábaleshvar	3,810	597	...	4,407	...	...	
	Shirála	271	185	...	456	...	...	
	Sátára	1,689	1,213	...	2,902	...	...	
	Mán	5,977	3,421	...	9,398	...	...	
	Válva	2,515	1,004	...	3,519	...	...	
	Khatáv	1,153	69	...	1,222	...	..	
	Karád	18,381	3,256	...	21,637	...	...	
	Tásgaon	1,321	14	...	1,335	...	...	
	Khánápur	3,530	1,144	...	4,674	...	...	
	Khandála	4,218	77	...	4,295	...	...	
	Pátan	5,435	711	...	6,146	...	...	
	Jávli	7,258	1,045	...	8,303	...	...	
	Wái	17,746	12	...	17,758	...	...	
	Koregaon	12,447	3,126	...	15,573	...	...	
	Total ...	85,751	15,874	...	1,01,625	...	..	
Sholápur ...	Sholápur	3,165	477	...	3,642	...	409	
	Bársi	1,499	177	...	1,676	..	218	
	Mádha	6,491	706	...	7,197	...	428	
	Pandharpur	2,699	175	...	2,874	...	137	
	Karámála	4,017	496	...	4,513	...	511	
	Sángola	3,051	1,968	...	5,019	...	213	
	Málsiras	1,523	1,369	...	2,892	...	259	
	Total ...	22,445	5,368	...	27,813	...	2,175	
Surat	Dángs	..	...	...	...	...	...	
	Chorási	22	...	22	...	...	...	
	Bulsár	147	6	...	153	...	...	
	Párdi...	40	5	...	45	...	...	
	Chikhli	140	3	...	143	...	...	
	Mándvi	568	6	...	574	...	...	
	Total ...	917	20	22	915	...	...	
Paneh Mahála...	Godhra	152	78	...	230	...	...	
	Kálol...	28	14	...	42	...	...	
	Hálol...	39	20	...	59	...	...	
	Dohad	44	22	...	66	...	...	
	Jhálod	25	12	...	37	...	...	
	Total ...	288	146	...	434	...	...	
		1,97,962	35,710	189	2,33.483	...	11,386	
		5,463	227	27	5,663	...	1,620	
	Grand Total ...	2,03,425	35,937	216	2,39,146	...	13,006	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 54.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outturn (in Cubic feet, solid) of Timber and Fuel during the year 1889-90 and Agency of Exploitation.

Division.	Timber in the rough; Logs.					Timber in the rough; Poles.					Sawn or squared Timber.					Miscellaneous.					Fuel.					Total Outturn.
	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
North Thána ..	..	..	..	..	..	10,206	872,187	405	..	882,798	..	..	..	..	..	..	Bamboo Cart-loads .. 7,816 No. 196,717	..	..	Bamboos Cart-loads .. 7,816 No. 196,717	3,225	1,468,966	..	..	1,472,191	Bamboos. Cart-loads .. 7,816 No. 196,717 2,364,989
South Thána ..	..	..	..	..	..	41,868	1,379,235	1,413	..	1,422,516	..	..	..	..	..	..	Bamboos Cart-loads .. 338 Head ,, .. 3,295 No. 187,757	..	..	Bamboos Cart-loads .. 338 Head ,, .. 3,295 No. 187,757	51,375	905,787	..	..	957,162	Bamboos. Cart-loads .. 338 Head ,, .. 3,295 No. 187,757 2,379,673
East Khándesh ..	77	..	..	..	77	19,700	..	..	..	19,700	..	..	..	..	..	..	Bamboos No. 955,175 199,280	..	..	Bamboos No. 255,175 199,280	443,340	1,165,930	..	..	1,609,270	Bamboos. No. 255,175 1,828,327
West Khándesh ..	..	..	..	..	..	50,489	..	..	..	50,489	..	..	..	..	..	1,983	Bamboos Cart-loads . 15 No. 235,908 509,584	30	..	Bamboos Cart-loads .. 15 No. 235,908 511,507	245,171	456,950	..	..	702,121	Bamboos. Cart-loads .. 15 No. 235,908 1,264,207
Násik	78,988	244,204	15,374	..	338,566	..	..	..	..	..	..	..	..	..	..	..	Bamboos Cart-loads .. 65 Head ,, .. 849 No. 145,592	..	..	Bamboos Cart-loads .. 65 Head ,, .. 849 No. 145,592	183,060	62,697	7,447	..	253,204	Bamboos. Cart-loads .. 65 Head ,, .. 849 No. 145,592 591,770
Ahmednagar ..	..	..	..	..	..	114,882	..	..	..	114,882	..	..	..	..	..	308	Bamboos No. 26,195 6,740	12,048	..	Bamboos No. 26,195 25,096	168,150	12,335	..	..	181,485	Bamboos. No. 26,195 321,463
Poona	97,547	..	..	..	97,547	34,738	39,902	1,680	..	76,320	..	..	..	..	..	..	Bamboos No. 136,821	..	..	Bamboos No. 136,821	268,272	910	..	..	269,182	Bamboos. No. 136,821 443,049
Sátára	..	7,479	..	..	7,479	33,452	1,204	1,432	..	36,088	..	..	..	..	..	Bamboo No. 600	Bamboos Head-loads .. 500 No. 2,826	..	..	Bamboos Head-loads .. 500 No. 3,426	123,275	12,185	200	..	135,660	Bamboos. Head-loads .. 500 No. 3,426 179,227
Sholápur	1,979	..	..	..	1,979	10	..	..	..	10	..	..	..	..	..	..	154	..	..	154	24,184	1,280	..	..	25,464	27,607
Surat	81,066	33,892	..	..	114,958	220,146	..	..	..	220,146	..	..	..	..	..	849	Bamboos Head-loads 2,421 No. 446,807 27,519	..	..	Bamboos Head-loads .. 2,421 No. 446,807 28,368	3,111	17,087	..	..	20,198	Bamboos. Head-loads .. 2,421 No. 446,807 383,670
Panch Mahális ..	5,348	248,906	72	..	254,326	504	50,754	..	..	51,258	..	..	..	..	..	1,949	Bamboos No. 54,183 90,094	22,286	..	Bamboos No. 54,183 114,329	49,711	117,304	..	..	167,015	Bamboos. No. 54,183 586,928
Total ..	265,005	534,481	15,446	..	814,932	525,995	2,343,282	4,930	..	2,874,207	..	..	..	..	..	Bamboos No. 600 5,089	Bamboos Cart-loads .. 8,234 Head ,, .. 7,065 No. 1,687,981 833,371	40,364	..	Bamboos Cart-loads .. 8,234 Head ,, .. 7,065 No. 1,688,581 833,371	1,562,874	4,222,431	7,647	..	5,792,952	Bamboos Cart-loads .. 8,234 Head ,, .. 7,065 No. 1,688,581 10,360,915

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 55.

Forest Department, Bombay, Northern Circle.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilized									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
North Thána.	Apta, temburni, palas, bel and brab tree leaves	...	...	.....	3,766	...	...	...	...	.....	3,766
	Shembi bark	...	...	.....	311	...	...	...	...	.....	311
	Gum	...	...	.....	564	...	...	...	...	.....	564
	Stone... ... ... Cart-loads.	...	...	.....	51	...	...	...	...	.....	51
	Karvi, large and small ... ... Do.	...	...	704	176	...	...	...	...	704	176
	Myrabolans ... ... Khandis.	69	1,343	.....	...	...	...	...	...	69	1,343
	Miscellaneous. Head-loads, &c.	...	...	.....	153	...	...	...	...	.....	153
	Total ...	...	1,343	.....	4,980	...	...	...	...	.....	6,323
South Thána.	Hirda ... ... Khandis.	92	1,645	.....	...	...	...	...	...	92	1,645
	Do. ... ... Head-loads.	...	...	151	5	...	...	...	...	151	5
	Palm, teak, apta and temburni leaves ... Head-loads, &c.	50	12	.....	2,737	...	...	...	...	50	2,749
	Sticks	...	...	.....	18	...	...	...	...	.....	18
	Gums	...	...	.....	63	...	...	...	...	.....	63
	Thorns ... ... Cart-loads.	...	...	49	41	...	...	...	...	49	41
	Do. ... ... Head-loads.	...	...	10	1	...	...	...	...	10	1
	Mowra flowers	...	...	.....	92	...	...	...	...	.....	92
	Brab trees	...	...	43	5	...	...	...	...	43	5
	Lime-stones... ... Cart-loads.	...	...	160	40	...	...	...	...	160	40
	Mango fruits	...	...	.....	3	...	...	...	...	.....	3
	Miscellaneous articles	...	868	.....	...	...	...	...	...	.....	868
	Total ...	...	2,525	.....	3,139	...	...	...	...	.....	5,063
East Khándesh.	Stones ... ... Cart-loads.	...	...	2,601	361	...	...	...	...	2,601	361
	Lime-stones... ... Do.	...	...	36	4	...	...	...	...	36	4
	Earth ... ... Do.	...	...	61	7	...	...	...	...	61	7
	Thorns ... ... Do.	...	...	3,025	216	...	...	...	...	3,025	216
	Rosha-grass stills ... ... No.	...	...	4	112	...	...	...	...	4	112
	Mango fruits	...	...	.....	1	...	...	...	...	.....	1
	Manure ... ... Cart-loads.	...	...	55	18	...	...	...	...	55	18
	Anjan leaves ... Do.	...	...	111	28	...	...	...	...	111	28
	Miscellaneous	...	...	.....	146	...	...	...	...	.....	146
	Total ...	...	...	.....	893	...	...	...	...	.....	893
West Khándesh.	Rosha-grass stills ... ... No.	...	...	173	10,502	...	...	...	...	173	10,502
	Reeds ... ... Cart-loads.	...	...	385	482	...	...	...	...	385	482
	Thorns ... ... Do.	...	...	224	14	...	...	...	...	224	14
	Stone... ... ... Do.	...	...	361	85	...	...	...	...	361	85
	Do. (lime) ... Do.	...	...	1,484	186	...	...	...	...	1,484	186
	Earth ... ... Do.	...	...	399	50	...	...	...	...	399	50
	Manure ... ... Do.	...	...	3,493	823	...	...	...	...	3,493	823
	Charcoal ... ... Do.	...	...	1	1	...	...	...	...	1	1
	Grass... ... ... Do.	...	...	48,330	6,041	...	...	...	...	48,330	6,041
	Mango fruits	...	...	.....	87	...	...	...	...	.....	87
	Grazing by fee-system, &c., &c....	...	...	.....	72,740	...	...	...	...	.....	72,740
	Miscellaneous	...	...	.....	664	...	...	...	...	.....	664
	Total ...	...	...	.....	91,675	...	...	...	...	.....	91,675
Násik.	Stones ... ... Cubic feet.	...	...	11,133	70	1,966	7	...	...	13,099	77
	Tarwad	...	...	.....	46	...	...	...	...	.....	46
	Manure ... ... Cart-loads.	...	...	384	187	...	...	...	...	384	187
	Karvi ... ... Head-loads.	...	...	2,275	37	...	...	...	...	2,275	37
	Do. ... ... Cart-loads.	...	...	7	3	...	...	...	...	7	3
	Cart-loads and head-loads of ráb.	...	...	4,472	70	...	...	...	...	4,472	70
	Thorns ... ... Cart-loads.	...	...	718	191	...	...	...	...	718	191
	Do. ... ... Head-loads.	...	...	76	26	...	...	...	...	76	26
	Do. ... Bullock-loads.	...	...	74	16	...	...	...	...	74	16
	Rosha-oil stills ... ... No.	...	...	71	510	...	...	...	...	71	510
	Grass and grazing by auction ..	...	...	.....	19,930	...	...	...	...	.....	19,930
	Grazing by fee-system	...	...	.....	34,271	...	...	...	...	.....	34,271
	Sand .. ... Cart-loads.	...	...	15	1	...	...	...	...	15	1
	Hirda ... ... Khandis.	...	...	101	2,029	...	...	...	...	101	2,029
	Catechu furnaces	...	...	6	25	...	...	...	...	6	25
	Apta, temburni and anjan leaves	...	...	.....	183	Cart-loads. 800	400	...	...	800	583
	Miscellaneous	...	...	.....	98	...	...	...	...	.....	98
	Total ...	...	...	.....	57,093	...	407	...	...	.....	58,100
Ahmednagar.	Hirda ... ... Khandis.	132	4,926	.....	...	...	...	...	...	132	4,926
	Karvi ... .. Bundles.	...	...	139	4	...	...	...	...	139	4
	Stones ... ... Cart-loads.	...	...	8,363	512	...	...	...	...	8,363	542
	Fruits	...	...	.....	20	...	...	...	...	.....	20
	Tarwad	...	...	.....	719	...	...	...	...	.....	719
	Miscellaneous	...	...	.....	255	...	...	...	...	.....	255
	Total ...	...	4,926	.....	1,540	...	...	...	...	.....	6,466

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
Poona.	Hirda ... ... Khandis.	78	1,318	63	1,942	...	...	...	...	141	3,260
	Grass and grazing...	...	...	.....	50,938	...	88,000	...	...	.....	1,38,938
	Stones and earth ... Cart-loads.	...	...	2,270	568	2,800	700	...	...	5,070	1,268
	Karvi ... ... Head-loads.	...	...	4,000	252	...	...	...	...	4,000	252
	Tarwad	...	...	.....	704	...	...	...	...	.....	704
	Fruits	...	...	.....	1	...	...	...	...	.....	1
	Rab ... ... Head-loads.	...	...	490	31	...	700	...	...	490	731
	Miscellaneous	...	...	.....	375	...	200	...	...	.....	575
	Total ...	...	1,318	.....	54,811	...	89,600	...	...	.....	1,45,729
Sátára.	Grass and grazing...	...	...	.....	41,958	...	...	...	...	.....	41,958
	Hirda... ... ... Khandis.	193	10,140	.....	...	...	...	...	...	193	10,140
	Shikakai ... ... Seers.	11	2	.....	576	...	...	...	...	11	578
	Stones ... ... Cubic feet.	...	...	2,857	15	...	...	...	...	2,857	15
	Do. ... ... Cart-loads.	...	...	10,897	744	...	...	...	...	10,897	744
	Earth ... ... Do.	...	...	11	2	...	...	...	...	11	2
	Thorns ... ... Do.	...	...	729	85	...	...	...	...	729	85
	Brushwood ... ... Do.	...	...	6	2	...	...	...	...	6	2
	Do. ... ... Head-loads.	...	...	2,035	225	76	9	...	...	2,111	234
	Thorns ... ... Do.	...	...	12,728	847	...	...	...	...	12,728	847
	Kárvi ... ... Do.	...	...	100	6	...	...	...	...	100	6
	Tarwad	...	...	.....	357	...	...	...	...	.....	357
	Temburni and aloe leaves ...	...	...	.....	123	...	...	...	...	.....	123
	Miscellaneous	...	...	.....	34	...	...	...	...	.....	34
	Total ...	...	10,142	.....	44,974	...	9	...	...	.....	55,125
Sholá-pur.	Bábul bark ... ... Head-loads.	9	37	.....	...	...	...	...	...	9	37
	Tarwad bark	...	...	.....	308	...	...	...	...	.....	308
	Tamarind fruits.	...	...	.....	6	...	...	...	...	.....	6
	Gum ... ... Maunds.	...	...	4	7	...	...	...	...	4	7
	Total ...	...	37	.....	321	...	...	...	...	.....	358
Surat.	Grass and grazing...	...	19	.....	657	...	...	...	...	.....	676
	Temru, khakar and ashindra leaves. Cart-loads, &c.	...	...	1,374,035	342	...	...	...	...	1,374,035	342
	Mowra flowers ... Maunds.	...	...	776	48	...	...	...	...	776	48
	Baru ... ... Cart-loads.	...	...	105	27	...	...	...	...	105	27
	Honey and wax ... Maunds.	...	...	54	15	...	...	...	...	54	15
	Bamboo mats	...	...	5,290	315	...	...	...	...	5,290	315
	Earth ... ... Cart-loads.	...	...	2	1	...	...	...	...	2	1
	Palm trees	...	...	1,042	82	...	...	...	...	1,042	82
	Gum ... ... Maunds.	...	...	4	1	...	...	...	...	4	1
	Miscellaneous	...	...	.....	177	...	...	...	...	.....	177
	Total ...	...	19	.....	1,665	...	...	...	...	.....	1,684
Panch Mahals.	Grass and grazing...	...	...	.....	6,179	...	...	...	...	.....	6,179
	Mowra flowers	...	...	.....	...	...	2,000	...	...	.....	2,000
	Thorns ... ... Cart-loads.	...	...	19	4	...	...	...	...	19	4
	Stones and kankar Do.	...	...	29	14	...	...	...	...	29	14
	Sand ... ... Cubic feet.	...	...	72,156	90	...	...	...	...	72,156	90
	Fruit, bark, &c.	...	...	.....	39	...	...	...	...	.....	39
	Seed ... ... Maunds.	110	110	.....	...	...	...	...	...	110	110
	Total ...	...	110	.....	6,326	...	2,000	...	...	.....	8,436

Dated Poona, 31st October 1890

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1889-90.

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER.				
Balance at commencement of the year.				
North Thána ... Teak logs and rafters ...	2,204	.....	2,204	
West Khándesh ... Do. do ...	9,561	.....	14,298	
Do. pieces ...	4,737	.....		
Násik ... ... Do. rafters ...	5,424	.....	5,424	
Ahmednagar ... Jambul rafters	86	.....	86	
Sátára ... ... Junglewood rafters ...	610	.....	610	
Surat ... ... Teak pieces	1,919	.....	2,063	
Miscellaneous do. ...	144	.....		
Panch Mahális ... Teak pieces	388	.....	19,126	
Do. rafters	18,482	.....		
Junglewood pieces ...	256	.....		
Total Balance ...	.....	.....	43,811	.....
Received from the Forests in Depôts.				
Teak logs and rafters	413,849	19,700 Khs.		
Do. pieces	108,907	5,372		
Do. beams	12,714	.....		
Jambul rafters	15,947	.....		
Junglewood pieces	39,868	.....		
Do. rafters	8,616	.....		
Sadada	198	117		
Haladwan	1	119		
Beo	.....	120		
Kheir	158	194		
Tanach	.....	2		
Sisam	948	43		Cubic ft.
Miscellaneous pieces	2,104	.....		19,700
Kanti	127	.....		Khs.
			603,437	5,967

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Sold locally.				
Teak logs and rafters	367,482	19,700 Khs.		
Do. pieces	124,663	1,227		
Do. beams	12,094	.....		
Jambul rafters	16,010	.....		
Junglewood rafters	6,337	.....		
Do. pieces	15,790	.....		
Sadada	9	117		
Haladwan	.....	119		
Beo	.....	120		
Kheir	81	194		
Tanach	.....	2		
Sisam	948	43		
Miscellaneous pieces	58	.....	5,43,472	C. ft. 19,700 Khs. 1,822
Sold from Depôt.				
Junglewood rafters	745	.....	745	
Free Grant.				
Teak logs and rafters	58,126	.....	58,126	
Used by the Department.				
Junglewood rafters.	106	.....	106	
Lost or written off.				
Teak logs and rafters	67	.....		
Jambul rafters	23	.....	90	
Balance at the close of the year.			5,92,539	C. ft. 19,700 Khs. 1,822
North Thána ... Junglewood pieces ...	120	....	120	
South Thána Do. ...	24,063	.....	24,063	
West Khándesh ... Teak pieces	576	.....		
Miscellaneous pieces ...	1,612	.....	2,188	

FORM No. 56—*continued.*

BAMBOOS.

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Balance at commencement of the year.				
Total Balance ...	.....	.....	.....	.....
Received from the Forests in Depôt.				
Bamboos	2,391			
Do. ... ... Head-loads ...	142		2,533	
Total ...	.....	.....	2,533	.....

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Sold locally.				
Bamboos	603	.....		
Do. ... ... Head-loads ...	122	.....	725	.....
Used by the Department.				
Bamboos ... ... Head-loads ...	20	.....	20	.....
			745	.....
Balance at the close of the year.				
Sátára ... ... Bamboos ...	558	.....		
Surat ... ... do. ...	1,230	.....		
Total Balance ...			1,788	.....
Total ...	.....	.....	2,533	.....

OTHER MINOR PRODUCE.

Particulars.		Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Balance at commencement of the year.					
North Thána ...	Ain bark	.....	Khs. m. lbs. 1 7 0		Khs. m. lbs. 1 7 0
South Thána ...	Hirda	.....	8 5 16		41 16 19
	Seed	.....	33 11 3		
West Khándesh	Teak leaves. Bundles	31	.....	31	... ..
Ahmednagar ...	Seed	.....	25 23 26		25 23 26
Poona	Hirda	.....	0 19 0		0 19 0
Sátára	,, ...	.....	141 5 2½		229 1 10½
	Seed	.....	87 24 8		
Panch Mahals	,, ...	.....	1 21 1		1 21 1
Total Balance ...		.....	.....	31	300 5 0½

Particulars.		Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Sold locally.					
Ain bark...		.....	Khs. m. lbs. 1 7 0	1	
Bábul ,, ...		.....	0 9 7		
Hirda		.....	628 10 13½		
Shikakai		....	0 11 14		
Palas leaves ... ... Bundles ...		50	.....	50	Khs m. lbs. 630 10 6½
Used by the Department.					
Seed		.....	403 24 6		
Hirda		.....	1 6 23		
Teak leaves ... ... Bundles ...		31	.....	31	405 3 1
Supplied to other Department.					
Seeds		.....	0 13 10	.....	0 13 10

Received from the Forests in Depôt.										*Lost or written off.*					
Bábul bark	...		0 9 7							Hirda	...	.....	76 17 0		
Hirda	...	.....	576 20 6							Grass ... ... Bundles	...	8,100	.....	8,100	76 17 0
Seed	...	.....	399 7 17½											8,181	1,112 15 17½
Shikekai	...	.....	0 11 14							*Balance at the close of the year.*					
Palas leaves ... . Bundles	...	50	.....							South Thána	Hirda	.....	0 10 0		42 10 1
Grass ... ... Bundles	...	8,100	.....								Seed	.....	42 0 1		
				8,150	976 20 16½					Násik ... ... Hirda		.....	1 5 10		1 5 10
										Ahmednagar ... ... Seed		.....	53 7 10		53 7 10
										Sátára	Hirda	.....	19 0 6		65 0 14
											Seed	.....	46 0 8		
										Panch Mahálś ... ... Do.		.....	2 14 20½		2 14 20½
										Total Balance ...		.....	.....		164 9 27½
Total ...		.....	.....	8,181	1,276 25 17					Total ...		.....	.....	8,181	1,276 25 17

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1889-90.

Description of Timber and other Produce.	ON HAND AT COMMENCEMENT OF THE YEAR.			ON HAND AT CLOSE OF THE YEAR.			DIFFERENCE IN VALUE.		REMARKS.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
North Thána Division.									
Teak pieces	2,204	.....	2,000	...	.....	...	...	...	
Junglewood	...	.....	..	120	.....	10	...	...	
Firewood	...	35	17	...	.....	...	...	..	
Ain bark	...	1¼	1	...	.....	...	...	...	
Total ...	...	.....	2,018	...	.....	10	...	2,008	
South Thána Division.									
Teak pieces	...	.....	...	24,063	.....	8,200	...	...	
Firewood	...	.....	...	...	6,904 0 0				
		K. m. lbs.							
Hirda nuts	...	8 5 16	136	...	0 10 0	...	...	...	
Miscellaneous seeds... ...	...	33 11 3	...	...	42 0 1	...	...	...	
Total ...	...	.....	136	...	.....	8,200	8,064	...	
East Khándesh Division.									
		K. m. lbs.			K. m. lbs.				
Seeds	...	10 14 1	...	...	7 21 11	...	...	...	
Total ...	...	.....	...	...	.....	...	...	...	
West Khándesh Division.									
Teak logs	1,767			...	.....	...	...	...	
Do. rafters	7,804	.....	5,163	...	.....	...	...	...	
Do. pieces	4,737			576	.....	50	...	...	
Miscellaneous pieces ...	...	.....	...	1,612	.....	80	...	...	
		Cub. ft.			Cub. ft.				
Fuel	...	230,425	4,608	...	7,000	20	...	...	
Teak leaves ... Bundles.	31	.....	2	...	.....	...	...	...	Used in building.
Total ...	...	.....	9,773	...	.....	150	...	9,623	
Násik Division.									
Teak rafters	30	.....	1,627	40	.....	14	...	...	
	5,394	.....							
		Cub. ft.			Cub. ft.				
Firewood	...	1,000	800	...	1,000	1,513	...	...	
		27,406			26,774				
					K. m. lbs.				
Hirda nuts	...	.....	...	...	1 5 10	35	...	...	
Total ...	...	.....	2,427	...	.....	1,562	...	865	
Ahmednagar Division.									
		K. m. lbs.			K. m. lbs.				
Seed	...	25 23 26	...	..	53 7 10	...	...	...	
Jámbul rafters	86	.....	3	...	.....	...	...	...	
					Khandis.				
Firewood	...	.....	...	...	1,439	48	...	...	
Total ...	...	.....	3	...	.....	48	45	..	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remark.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
Poona Division.									
Hirda	...	0 19 0	10	...	.....	...	...	...	
Firewood	...	.....	...	...	Cub. ft. 850	9	...	...	
Total ...	...	.....	10	...	.....	9	...	1	
Sátára Division.									
Teak trees	4	.....	5	1	.....	2	...	...	
Junglewood rafters	611	.....	125	2,838	.....	350	...	...	
		K. m. lbs.							
Firewood	...	225 14 0	200	...	.....	...	...	...	
Charcoal	...	0 8 0	4	...	.....	...	...	...	
Bullock loads of firewood ...	...	.....	...	24	.....	5	...	...	
Head-loads do. ...	...	.....	...	174	.....	4	...	...	
Bamboos	...	.....	...	558	.....	14	...	...	
		K. m. lbs.			K. m. lbs.				
Hirda	...	141 5 2½	500	...	19 0 6	10	...	...	
Seed	...	87 24 8	...	...	46 0 8	...	...	...	
Total ...	...	.....	834	...	.....	885	51	...	
Sholápur Division.									
		Cub. ft.							
Firewood	...	1,454	39	...	.....	...	...	39	
Surat Division.									
					Khandis.				
Teak logs	...	.....	...	...	4,145	6,000	...	...	
Do. pieces	2,063	.....	1,200	15,048	.....	6,900	...	...	
Bamboos	134	.....	2	1,230	.....	15	...	...	
Miscellaneous	...	.....	...	578	.....	1,000	...	...	
Teak knees	...	.....	...	79	.....	40	...	...	
Khair pieces	...	.....	...	77	.....	150	...	...	
Teak disks	...	.....	...	5	.....	1	...	...	
Junglewood pieces	...	.....	...	201	.....	100	...	...	
Sadada	...	.....	...	189	.....	180	...	...	
Kanti	...	.....	...	127	.....	123	...	...	
Haladwan	...	.....	...	1	.....	1	...	...	
Total ...	...	.....	1,202	...	.....	68,510	67,308	...	
Panch Mahdls Division.									
Teak pieces and poles ...	388	.....	250	...	.....	...	...	...	
Teak rafters	18,482	.....	800	...	.....	...	...	...	
Junglewood pieces	256	.....	10	...	.....	...	...	...	
		Cub. ft.							
Firewood	...	151,296	2,000	...	.....	...	...	...	
		K. m. lbs.			K. m. lbs.				
Seeds	...	1 21 12	50	...	2 24 20½	80	...	...	
Total ...	...	.....	3,110	...	.....	80	...	3,030	

Net difference in favour of the year Rs. 59,902.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 57 A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Live and Dead Stock for the year 1889-90.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
North Thána.		Rs.		Rs.	Rs.	Rs.	
Parol bungalow	1	1,200	1	1,200	...	...	
Náka-house at Mándvi	1	250	1	250	...	...	
Do. at Mánikpur	1	603	1	603	...	...	
Forest stations	38	570	38	570	...	...	
Do. posts	82	840	82	840	...	...	
Office tent	1	273	1	273	...	...	
Do.	...	...	1	433	...	...	
Small rawties	2	188	2	188	...	...	
Great-coats	226	1,359	226	1,359	...	...	
Tools, plant and office furniture ...	...	2,586	...	2,626	...	...	
Total ...	...	7,869	...	8,342	473	...	
South Thána.							
Office tent	1	273	1	273	...	...	
Do.	...	...	1	433	...	...	
Small rawties	2	186	2	186	...	..	
Great-coats	263	1,713	263	1,713	...	...	
Tools, plant and office furniture ...	...	808	...	910	...	...	
Total ...	...	2,980	...	3,515	535	...	
East Khándesh.							
Office tent	1	248	1	248	...	...	
Great-coats	192	1,254	192	1,254	...	...	
Tools, plant and office furniture ...	...	648	...	663	...	...	
Total ...	...	2,150	...	2,165	15	...	
West Khándesh.							
Office tent	1	387	1	387	...	...	
Great-coats	219	1,428	219	1,428	...	...	
Cabul pál	...	...	1	126	...	...	
Tools, plant and office furniture ...	...	4,289	...	5,322	...	...	
Total ...	...	6,104	...	7,263	1,159	...	
Násik.							
Office tents	2	300	2	300	...	...	
Great-coats	592	1,976	592	1,976	...	...	
Tools, plant and office furniture ...	...	258	...	258	...	....	
Total ...	..	2,534	...	2,534	...	...	
Ahmednagar.							
Sleeping pál 12′ × 12′, double fly ...	1	246	1	246	...	...	
Office room, Range Forest Officer, Karjat	1	214	1	214	...	...	
Hirda Depôt, Singanvadi	1	25	1	25	...	...	
Forest rest-houses	3	90	3	90	...	...	
Great-coats	208	1,357	208	1,357	...	...	
Tools, plant and office furniture ...	...	986	...	986	...	...	
Total ...	...	2,918	...	2,918	...	...	

FORM No. 57 A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
Poona.		Rs.		Rs.	Rs.	Rs.	
Office tent	1	273	1	273	...	...	
Range Forest Officer's offices ...	5	7,752	5	7,752	...	...	
Great-coats	1,371	3,655	1,371	3,655	...	...	
Tools, plant and office furniture ...	...	410	...	440	...	...	
Total ...	...	12,090	...	12,120	30	...	
Sátára.							
Bungalow at Málcolmpeth ...	1	700	1	700	...	...	
Pál with double fly	1	245	1	245	...	...	
Great-coats	244	1,708	244	1,708	...	...	
Tools, plant and office furniture ...	...	825	...	825	...	...	
Total ...	...	3,478	...	3,478	...	...	
Sholápur.							
Office tent	1	100	1	100	...	...	
Do.	...	...	1	387	...	...	
Great-coats	119	777	119	777	...	...	
Tools, plant and office furniture ...	...	231	...	231	...	...	
Total ...	...	1,108	...	1,495	387	...	
Surat.							
Office tent, 12 feet	1	246	1	246	...	...	
Andhátri bungalow	1	291	1	291	...	...	
Dhadahvada do.	1	80	1	80	...	...	
Tárápur do.	1	100	1	100	...	...	
Large Waghai do.	1	1,099	2	1,099	...	...	
Small do. do.	1						
Large Pimpri do.	1	499	1	499	...	...	
Do. Garvi do.	1	1,012	1	1,012	...	...	
Small do. do.	1	288	1	288	...	...	
Great-coats	73	484	73	484	...	...	
Tools, plant and office furniture ...	...	2,204	...	2,317	...	...	
Total ...	...	6,303	...	6,416	113	...	
Panch Mahál.							
Rest-houses and depôts	34	2,410	34	2,410	...	...	
Bungalow	1	8,200	1	8,200	...	...	
Office tent	1	273	1	273	...	...	
Great-coats	110	717	110	717	...	...	
Tools, plant and office furniture ...	...	924	...	966	...	...	
Total ...	...	12,524	...	12,566	42	...	
Working Plans.							
Office tent	1	285	1	285	...	...	
Tools, plant and office furniture ...	...	1,086	...	1,086	...	...	
Total ...	...	1,371	...	1,371	...	...	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

Budget Heads.	Direction.	North Thána Division.	South Thána Division.	East Khándesh Division.	West Khándesh Division.	Násik Division.	Ahmednagar Division.	Poona Division.	Sátára Division.	Sholápur Division.	Surat Division.	Panch Mahâls Division.	Working-Plans Division.	Total.	Budget Estimates.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—															
a. Timber	....	2,449 6 0	5,522 8 0	9,584 8 0	33,365 8 0	4,140 5 11	6,967 6 9	25,595 15 0	14,911 13 11	270 13 0	31,522 6 0	440 10 6	....	1,34,771 5 1	1,59,500 0 0
b. Firewood and charcoal	....	401 11 6	1,762 4 0	12,249 8 0	7,245 15 6	3,870 14 3	1,216 3 6	11,694 9 0	2,264 15 3	1,766 14 6	165 12 0	2,892 0 0	....	44,930 11 6	36,500 0 0
c. Bámbus	....	....	....	....	....	....	....	....	1 7 9	....	3 0 0	....	....	4 7 9	....
d. Sandalwood	....	....	....	....	....	....	....	....	....	2 8 0	....	....	....	2 8 0	....
e. Grass and other minor produce	....	1,371 7 6	1,656 9 0	....	....	....	4,926 0 5	3,197 7 8	10,142 5 7	37 0 0	19 1 9	....	....	21,349 15 11	20,000 0 0
II.—Timber and other produce removed from the Forests by consumers or purchasers—															
a. Timber	....	2,17,318 11 8	1,67,517 13 4	4,784 6 0	11,039 14 0	13,488 14 10	188 13 1	797 7 6	2,679 9 3	59 11 3	24,342 13 8	47,847 15 11	....	4,90,016 2 6	4,58,000 0 0
b. Firewood and charcoal	....	7,854 15 3	1,354 2 6	8,400 1 6	3,119 1 0	1,474 7 7	742 8 11	2,415 1 3	395 4 1	127 5 9	295 10 0	949 2 3	....	27,127 12 1	22,000 0 0
c. Bámbus	....	7,293 13 4	4,196 4 4	3,637 10 2	2,882 4 7	3,838 6 8	263 3 0	940 4 8	241 3 0	....	8,900 12 9	702 14 11	....	32,896 13 5	43,500 0 0
d. Grazing and fodder grass	....	14,443 8 0	6,039 13 0	45,047 0 10	78,781 3 9	55,204 12 8	26,040 6 5	51,022 10 6	41,911 15 11	16,710 8 11	656 13 0	6,178 9 0	....	3,42,037 6 0	2,93,500 0 0
e. Other minor produce	....	4,952 13 0	3,137 3 3	901 4 6	12,459 4 3	4,524 11 3	1,170 1 4	1,994 8 5	3,062 8 7	320 13 0	1,038 3 10	158 9 11	....	33,720 1 4	27,500 0 0
III.—Confiscated, drift and waif wood	....	2,708 4 2	868 0 10	130 12 2	1,504 9 9	235 9 10	60 2 2	244 12 5	99 15 5	15 1 3	385 9 5	39 3 7	....	6,292 1 0	2,500 0 0
IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	....	....	....	12,385 15 9	15,050 15 9	63 5 3	....	....	....	....	....	....	....	27,500 4 9	31,500 0 0
b. Revenue from shared and private forests	....	1,567 10 1	736 12 8	....	....	....	....	391 4 10	....	....	1 0 0	877 8 0	....	3,574 3 7	4,000 0 0
V.—Miscellaneous—															
a. Fines and foreitures	....	150 1 0	6,682 8 4	5 0 0	1 8 0	86 13 9	....	169 8 9	6 7 5	27 8 0	....	83 1 1	....	6,212 8 4	4,000 0 0
b. Refunds	....	31 7 4	438 0 3	27 9 11	14 10 0	7 13 5	2 14 5	26 11 8	12 1 4	2 5 7	....	....	....	563 9 11	....
c. Other sources	19 3 0	6,481 8 0	907 13 1	815 0 9	1,383 9 6	2,221 8 4	781 2 11	71 1 5	128 9 10	5 5 0	762 15 6	957 8 11	....	14,540 6 2	15,500 0 0
Total, Revenue	19 3 0	2,67,025 4 10	1,99,819 12 7	97,968 13 7	1,66,853 8 0	89,107 11 9	42,358 14 11	97,961 7 1	75,858 5 4	19,345 14 3	68,094 1 11	61,127 4 1	....	11,85,510 5 4	11,27,000 0 0
EXPENDITURE.															
A.—CONSERVANCY AND WORKS.															
I.—Timber and other produce removed from the Forests by Government Agency—															
a. Timber	....	456 12 9	6,558 3 1	1,078 6 0	2,843 13 6	472 0 5	1,442 7 0	3,190 10 0	1,891 15 6	21 6 0	11,534 12 4	263 6 0	....	29,753 12 7	35,700 0 0
b. Firewood and charcoal	....	28 12 0	95 5 4	2,713 0 6	1,222 13 0	976 5 8	281 7 3	2,576 2 3	1,490 10 9	165 13 4	....	187 2 0	....	9,647 8 1	9,950 0 0
c. Bámbus	....	....	....	....	....	....	....	....	2 14 6	....	....	....	....	2 14 6	....
d. Sandalwood	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Grass and other minor produce	....	497 14 6	625 0 8	....	....	44 13 6	787 6 0	577 15 6	3,252 5 3	1 8 0	30 14 0	....	....	5,817 13 5	11,100 0 0
II.—Timber and other produce removed from the Forests by consumers or purchasers	....	6,738 4 10	3,035 9 9	4,681 3 1	4,872 10 3	1,718 4 4	202 10 6	1,863 6 2	2,444 2 9	....	2,365 5 5	690 11 5	....	28,612 4 6	27,450 0 0
III.—Confiscated, drift and waif wood	....	31 8 0	14 3 0	13 4 5	10 9 0	10 7 6	0 7 0	1 8 0	1 4 0	0 12 0	3 7 2	1 12 0	....	89 2 4	100 0 0

IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	....	....	....	....	172 11 11	....	....	....	....	....	....	....	....	172 11 11	....
b. Revenue from shared and private forests	....	....	....	10 11 6	....	....	....	233 9 7	....	....	....	....	....	244 5 1	200 0 0
V.—Rent of Leased Forests and payments to Shareholders in Forests managed by Government	....	....	893 11 11	....	....	218 15 0	2 12 0	2,119 4 9	3,310 14 2	....	13,023 4 10	....	....	19,563 14 8	18,350 0 0
VI.—Live Stock, Stores, Tools and Plant—															
a. Purchase of Cattle	....	....	....	4 8 0	....	....	....	....	....	....	....	....	....	4 8 0	....
b. Feed and keep of Cattle	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
c. Stores, Tools and Plant	....	587 13 6	166 8 0	10 8 0	145 2 0	5 15 0	585 10 0	540 5 0	10 15 3	18 0 0	2 8 0	16 14 0	....	2,090 2 9	50 0 0
VII.—Communications and Buildings—															
a. Roads and Bridges	....	....	....	....	....	....	....	....	70 1 3	....	717 14 7	....	....	787 15 10	1,100 0 0
b. Buildings	....	515 1 0	352 13 6	128 3 0	943 0 8	333 1 0	....	120 0 9	41 4 6	....	457 15 2	36 0 9	....	2,927 8 4	5,850 0 0
c. Other Works	....	....	....	....	12 0 0	....	....	....	....	....	....	16 10 8	....	28 10 8	50 0 0
VIII.—Demarcation, Improvement and Extension of Forests—															
a. Demarcation	....	2,735 3 9	825 4 3	178 14 11	5,925 14 3	2,831 11 10	1,952 8 8	4,619 7 5	1,119 11 8	656 9 6	114 8 0	915 5 11	....	21,875 4 2	28,200 0 0
b. Compensation for land and Rights	....	1,262 0 0	7,490 12 2	....	....	....	4,865 12 4	....	72 8 0	....	40 0 0	72 9 0	....	13,803 9 6	27,900 0 0
c. Surveys and Working Plans	669 14 0	5,220 4 2	17,326 1 3	....	414 15 4	551 10 10	498 14 0	12,000 14 5	3,391 12 8	345 10 5	....	461 0 3	17,159 14 0	58,040 15 4	70,050 0 0
d. Plantations	27 0 9	847 5 8	1,679 7 10	12 11 0	831 10 10	2,463 9 3	1,287 10 7	1,164 3 0	539 4 11	2,174 10 6	1 0 0	27 13 0	....	11,056 7 4	13,000 0 0
e. Protection from Fire	....	1,175 3 9	682 10 3	70 1 6	137 15 9	14 2 3	....	74 5 6	7 13 0	....	2 0 0	....	....	2,164 4 0	3,900 0 0
f. Other Works	....	591 1 0	1,097 3 6	5 4 0	....	133 15 6	444 11 3	1,080 4 9	199 10 6	4,454 5 0	....	....	....	8,006 7 6	2,850 0 0
IX.—Miscellaneous—															
a. Refunds	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Law Charges	....	....	111 10 4	....	0 2 9	....	....	91 3 3	....	....	12 0 0	....	....	215 0 4	....
c. Other Charges	23 13 6	344 13 9	156 5 0	96 7 7	965 7 3	404 9 8	104 7 3	149 12 11	1,074 12 9	6 10 4	259 9 10	21 8 7	....	3,608 6 5	2,600 0 0
Total, A. Conservancy and Works	720 12 3	21,033 3 5	41,110 13 10	9,003 3 6	18,408 14 6	10,179 9 3	12,456 11 10	30,408 1 3	18,832 1 5	7,845 5 1	28,565 3 4	2,710 13 7	17,159 14 0	2,18,518 11 3	2,58,400 0 0
B.—Establishments.															
I.—Salaries—															
a. Conservators	18,000 0 0	....	....	....	....	....	....	....	....	....	....	....	....	18,000 0 0	18,000 0 0
b. Superior Officers	....	8,704 14 2	9,627 5 5	10,868 5 8	8,308 0 0	11,400 0 0	8,707 10 2	14,008 13 11	10,475 8 7	2,750 0 0	10,966 10 8	6,600 0 0	....	1,02,417 4 7	96,000 0 0
c. Subordinate Forest and Depôt Establishments	....	25,082 5 11	27,554 4 11	22,853 15 6	21,764 1 1	32,391 2 11	23,360 11 0	34,656 14 3	28,247 13 1	12,240 9 2	8,347 8 7	12,038 8 9	....	2,48,537 15 2	2,55,900 0 0
d. Office Establishments	6,743 10 6	3,175 11 1	3,171 8 4	2,196 0 0	2,552 10 7	2,529 15 9	2,064 13 11	2,502 2 0	2,546 13 10	1,800 12 11	2,125 13 9	1,961 2 9	....	33,376 3 5	33,550 0 0
e. Deputation and Special allowances	451 0 0	....	....	....	....	....	....	....	....	....	....	....	....	451 0 0	1,750 0 0
II.—Travelling Allowances—															
a. Conservators	2,400 0 0	....	....	....	....	....	....	....	....	....	....	....	....	2,400 0 0	2,400 0 0
b. Superior Officers	....	2,502 8 1	3,921 1 2	1,800 0 0	2,366 2 1	2,550 15 0	1,971 4 7	2,877 7 8	2,469 15 1	964 3 8	1,795 2 7	1,800 0 0	....	25,378 12 4	25,700 0 0
c. Subordinate Forest and Depôt Establishments	....	1,011 12 1	1,102 10 3	1,683 11 10	1,340 15 0	1,900 1 4	1,520 5 0	1,583 13 7	1,853 15 2	929 7 0	732 9 1	666 15 9	....	14,326 7 1	14,400 0 0
d. Office Establishments	2,051 14 4	990 15 10	1,064 2 1	750 2 0	842 12 8	872 4 1	775 11 1	975 10 4	898 1 1	749 12 5	775 1 11	652 1 1	....	11,398 8 11	11,050 0 0
III.—Contingencies—															
a. Stationery	9 10 6	365 7 3	351 8 8	365 10 0	410 8 7	483 1 8	365 4 4	387 8 8	456 9 10	209 4 4	214 15 1	209 9 7	....	3,829 2 6	4,150 0 0
b. Carriage of Tents and Records	523 12 8	362 1 3	291 10 6	164 4 0	250 5 6	408 11 0	261 0 0	290 0 6	278 9 0	109 12 0	129 8 9	155 0 0	....	3,22 411 2	3,270 0 0
c. Rents, Rates and Taxes	480 0 0	210 14 8	246 6 5	0 2	393 9 11	150 1 7	252 0 0	252 0 0	51 13 7	54 0 0	100 0 0	26 0 0	....	2,491 14 4	2,450 0 0
d. Pay of Police Guards	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Official Postage	463 1 6	755 12 6	797 12 0	613 7 6	650 11 6	1,040 5 6	607 10 0	799 14 6	785 12 0	368 6 6	240 4 0	261 9 0	....	7,884 11 0	6,800 0 0
f. Sundries	225 10 8	2,102 10 4	708 5 5	1,049 5 5	2,335 6 8	313 14 9	937 6 0	309 1 6	1,283 8 9	1,491 3 2	373 12 7	707 6 8	....	11,837 11 11	19,200 0 0
Payments to officers of other Provinces	....	....	....	....	....	....	....	....	....	....	....	....	....	1,784 1 5	..
Total, B.—Establishments	3,137 13	45,625 2 0	48,836 11 2	42,620 1 1	41,215 3 7	54,040 9 7	40,823 12 1	58,643 6 6	49,348 8 0	21,667 7 2	25,801 7 6	25,078 5 7	....	4,86,838 7 10	4,94,600 0 0
Grand Total of Expenditure	3,858 9 1	66,657 5 5	89,947 0 0	51,623 4 7	59,714 2 1	64,220 2 10	53,280 7 11	89,046 7 9	68,180 9 5	29,512 12	54,366 10 10	27,789 3 2	....	7,05,357 3 1	7,53,000 0 0

No. $\frac{F}{14830}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 59.

Forest Department, Bombay, Northern Circle.

Account Current for the year 1889-90.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	.....	2,459 14 1	By 3. Refunds and Drawbacks—		
			Refunds—Forest	.....	1,191 10 5
„ VIII.—Assessed Taxes—Income Tax—			„ 11. Forest (as per Annual Summary Form. No. 58)	.....	7,05,357 3 1
Deductions by Government from Salaries and Pensions ...	.....	4,607 2 10	„ Revenue Deposits—Forests	.....	39,015 1 1
			„ Advances Recoverable—		
			Forest Advances	4,24,058 3 3	
„ IX.—Forest (as per Annual Summary Form No. 58)	.....	11,85,540 5 4	Objection Book Advances	1,576 3 7	4,25,634 6 10
			Tentage Advances	.....	
			„ Forest Remittances—		
„ XII.—Interest—Interest on Arrears of Revenue	.....	34 13 5	Remittances to Treasuries	12,27,190 4 6	
			Inter-divisional Transfers	78,971 11 7	13,07,283 2 1
			Inter-departmental Transfers... ...	1,121 2 0	
„ XXIII.—Stationery and Printing—			„ Cheques and Bills—		
Other Press Receipts—			Forest Cheques (cancelled)	.....	1,092 7 6
Government Central Press ...	.....	12 7 3	„ Cash Recoveries	.....	13,996 2 10
			„ Suspense Account	.....	20 12 0
„ XXIII.—Stationery and Printing—					
Stationery Receipts—			„ Accounts Current—		
Sale-proceeds of Stationery Boxes	.....	2 5 6	Accounts between Bombay and Public Works Department, Bombay (Ordinary Branches)—		
			IV—Items adjustable by Public Works Department—		
„ XVI.—Law and Justice—			Payments on account of Lands taken up for public purposes	7 14 3	7 14 3
General Fees, Fines and Forfeiture—			Inter-departmental charges	1,067 8 7	1,067 8 7
Magisterial Fines ...	.....	1 4 0	Account between Bombay and Marine—		
			IV.—Miscellaneous	1,120 10 0	1,120 10 0
„ XIX.—Education—			Account between Bombay and Central Provinces, Bombay—		
Miscellaneous—					
Sale-proceeds of Books (Local).	.....	39 0 0	III.—Items adjustable by Central Provinces—		
			Advances Recoverable ...	450 0 0	450 0 0
„ XXXII.—Civil Works in charge Civil Officers—			„ Bombay Uncovenanted Service Family Pension Fund, Widows Branch	.....	54 2 0
Road-side Trees Receipt ...	.....	704 15 6			
„ Revenue Deposits (Forests)	.....	44,384 1 0			
„ Cheques and Bills—(Departmental Cheques)—					
Forests...	.....	7,66,716 0 4			

„ Advances Recoverable—											
Forest Advances	4,23,606	2	4	4,25,769	0	7					
Objection Book Advances	1,962	14	3								
Tentage Advances	200	0	0								
„ Cash Recoveries	.....			13,996	2	10					
„ Forest Remittances—											
Remittances to Treasuries	2,439	10	2	49,527	1	1					
Inter-divisional Transfers	44,738	1	4								
Inter-departmental Transfers	2,349	5	7								
„ Bombay Uncovenanted Service Family Pension Fund, Widows Branch	.....			1,355	15	11					
„ Accounts Current—											
Account between Bombay and Public Works Department, Bombay—											
IV.—Payments into Treasury by Civil Officers on account of Public Works Department	.....			652	11	5					
„ Account between India and Bombay—											
III.—Items adjustable by India—											
Bengal Military Orphan Fund ...	.....			181	11	7					
Bengal Military Fund ...	.....			589	0	0					
Bengal Uncovenated Service Family Pension Fund ...	.....			139	11	2					
„ Account between Bombay and Marine, Bombay—											
IV.—Miscellaneous	.....			1,120	10	0					
„ Suspense Account	.....			20	12	0	Closing Balance ...	.....		1,564	1	2
Grand Total ...	.....			24,97,855	1	10	Grand Total ...	.....		24,97,855	1	10

No. F. 14823.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
North Thána ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	2,449 6 0	2,449 6 0	2,449 6 0	.....	
	b. Firewood and charcoal	.....	401 11 6	401 11 6	401 11 6	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	1,371 7 6	1,371 7 6	1,371 7 6	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	*1,601 0 0	2,17,318 11 8	2,17,318 11 8	2,17,318 11 8	.....	* Written off.
	b. Firewood and charcoal	.....	7,854 15 3	7,854 15 3	7,854 15 3	.....	
	c. Bamboos	.....	7,293 13 4	7,293 13 4	7,293 13 4	.....	
	d. Grazing and fodder grass ...	.....	14,443 8 0	14,443 8 0	14,443 8 0	.....	
	e. Other minor produce	32 8 0	4,920 5 0	4,952 13 0	4,952 13 0	.....	
	III.—Confiscated, drift and waif wood ...	.....	2,708 4 2	2,708 4 2	2,708 4 2	.....	
	Total ...	32 8 0	2,58,762 2 5	2,58,794 10 5	2,58,794 10 5	.....	
South Thána ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	5,522 8 0	5,522 8 0	5,522 8 0	.....	
	b. Firewood and charcoal	.....	1,762 4 0	1,762 4 0	1,762 4 0	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and minor produce ...	†769 4 0	1,656 9 0	1,656 9 0	1,656 9 0	.....	† Written off.
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	34,909 3 0	1,32,675 3 4	1,67,584 6 4	1,67,517 13 4	66 9 0	
	b. Firewood and charcoal	.....	1,354 2 6	1,354 2 6	1,354 2 6	.....	
	c. Bamboos	.....	4,196 4 4	4,196 4 4	4,196 4 4	.....	

	d. Grazing and fodder grass ...	...	.....			6,039	13	0	6,039	13	0	6,039	13	0	.....
	e. Other minor produce ...	...	.....			3,137	3	3	3,137	3	3	3,137	3	3	.....
	III.—Confiscated, drift and waif wood	...	.....			868	0	10	868	0	10	868	0	10	.....
	Total	...	34,909	3	0	1,57,212	0	3	1,92,121	3	3	1,92,054	10	3	66 9 0
East Khándesh.	*I.—Timber and other produce removed from the Forests by Government Agency—*														
	a. Timber	...	.....			9,584	8	0	9,584	8	0	9,584	8	0	.....
	b. Firewood and charcoal ...	...	.....			12,249	8	0	12,249	8	0	12,249	8	0	.....
	c. Bamboos	...	.....			.....			.....			.....			.....
	d. Sandalwood	...	.....			.....			.....			.....			.....
	e. Grass and other minor produce	...	.....			.....			.....			.....			.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—														
	a. Timber	...	.....			4,784	6	0	4,784	6	0	4,784	6	0	.....
	b. Firewood and charcoal ...	...	.....			8,400	1	6	8,400	1	6	8,400	1	6	.....
	c. Bamboos	...	.....			3,637	10	2	3,637	10	2	3,637	10	2	.....
	d. Grazing and fodder grass	...	13	13	0	45,047	0	10	45,060	13	10	45,047	0	10	13 13 0
	e. Other minor produce ...	...	.....			901	4	6	901	4	6	901	4	6	.....
	III.—Confiscated, drift and waif wood	...	.....			130	12	2	130	12	2	130	12	2	.....
	Total	...	13	13	0	84,735	3	2	84,749	0	2	84,735	3	2	13 13 0
West Khándesh.	*I.—Timber and other produce removed from the Forests by Government Agency—*														
	a. Timber	...	.....			33,365	8	0	33,365	8	0	33,365	8	0	.....
	b. Firewood and charcoal ...	...	.....			7,245	15	6	7,245	15	6	7,245	15	6	.....
	c. Bamboos	...	.....			.....			.....			.....			.....
	d. Sandalwood	...	.....			.....			.....			.....			.....
	e. Grass and other minor produce	...	.....			.....			.....			.....			.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—														
	a. Timber	...	.....			11,039	14	0	11,039	14	0	11,039	14	0	.....
	b. Firewood and charcoal ...	...	.....			3,119	1	0	3,119	1	0	3,119	1	0	.....
	c. Bamboos	...	.....			2,882	4	7	2,882	4	7	2,882	4	7	.....
	d. Grazing and fodder grass	...	35	13	0	78,745	6	9	78,781	3	9	78,781	3	9	.....
	e. Other minor produce ...	...	.....			12,459	4	3	12,459	4	3	12,459	4	3	.....
	III.—Confiscated, drift and waif wood	...	.....			1,504	9	9	1,504	9	9	1,504	9	9	.....
	Total	...	35	13	0	1,50,361	15	10	1,50,397	12	10	1,50,397	12	10	.....

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Násik ...	*I.—Timber and other produce removed from the Forest by Government Agency—*						
	a. Timber	2,300 6 6	3,762 8 11	6,062 15 5	4,140 5 11	1,922 9 6	
	b. Firewood and charcoal	13 6 0	3,870 14 3	3,884 4 3	3,870 14 3	13 6 0	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	.....	.....	.....	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	13,438 14 10	13,438 14 10	13,438 14 10	.....	
	b. Firewood and charcoal	.....	1,474 7 7	1,474 7 7	1,474 7 7	.....	
	c. Bamboos	.....	3,838 6 8	3,838 6 8	3,838 6 8	.....	
	d. Grazing and fodder grass ...	452 8 0	54,918 12 2	55,371 4 2	55,204 12 8	166 7 6	
	e. Other minor produce	.....	4,544 11 3	4,544 11 3	4,524 11 3	20 0 0	
	III.—Confiscated, drift and waif wood ...	3 4 3	235 9 10	238 14 1	235 9 10	3 4 3	
	Total ...	2,769 8 9	86,084 5 6	88,853 14 3	86,728 3 0	2,125 11 3	
Ahmednagar ...	*I—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	28 12 9	6,957 13 6	6,986 10 3	6,967 6 9	19 3 6	
	b. Firewood and charcoal	.....	1,217 4 6	1,217 4 6	1,216 3 6	1 1 0	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ..	.....	4,926 0 5	4,926 0 5	4,926 0 5	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	188 13 1	188 13 1	188 13 1	.....	
	b. Firewood and charcoal	.....	742 8 11	742 8 11	742 8 11	.....	
	c. Bamboos	.....	263 3 0	263 3 0	263 3 0	.....	
	d. Grazing and fodder grass ...	.....	26,064 6 5	26,064 6 5	26,040 6 5	24 0 0	
	e. Other minor produce	.....	1,540 13 4	1,540 13 4	1,170 1 4	370 12 0	
	III.—Confiscated, drift and waif wood ...	.....	60 2 2	60 2 2	60 2 2	.....	
	Total ...	28 12 9	41,961 1 4	41,989 14 1	41,574 13 7	415 0 6	

Poona	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	25,595 15 0	25,595 15 0	25,595 15 0	.....
	b. Firewood and charcoal	.....	11,094 9 0	11,094 9 0	11,094 9 0	.....
	c. Bamboos	.....	.....	.....	.....	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	3,197 7 8	3,197 7 8	3,197 7 8	.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—					
	a. Timber	.....	797 7 6	797 7 6	797 7 6	.....
	b. Firewood and charcoal	.....	2,415 1 3	2,415 1 3	2,415 1 3	.....
	c. Bamboos	.....	940 4 8	940 4 8	940 4 8	.....
	d. Grazing and fodder grass ...	.....	51,022 10 6	51,022 10 6	51,022 10 6	.....
	e. Other minor produce	.....	1,997 4 5	1,997 4 5	1,994 8 5	2 12 0
	III.—Confiscated, drift and waif wood ...	.....	244 12 5	244 12 5	244 12 5	.....
	Total ...	.....	97,305 8 5	97,305 8 5	97,302 12 5	2 12 0
Sátára	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	14,911 13 11	14,911 13 11	14,911 13 11	.....
	b. Firewood and charcoal	.....	2,264 15 3	2,264 15 3	2,264 15 3	.....
	c. Bamboos	.....	1 7 9	1 7 9	1 7 9	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	10,142 5 7	10,142 5 7	10,142 5 7	.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—					
	a. Timber	.....	2,679 9 3	2,679 9 3	2,679 9 3	.....
	b. Firewood and charcoal	.....	395 4 1	395 4 1	395 4 1	.....
	c. Bamboos	.....	241 3 0	241 3 0	241 3 0	.....
	d. Grazing and fodder gross ...	.....	42,558 15 11	42,558 15 11	41,911 15 11	647 0 0
	e. Other minor produce	83 0 0	2,979 8 7	3,062 8 7	3,062 8 7	.....
	III.—Confiscated, drift and waif wood ...	.....	99 15 5	99 15 5	99 15 5	.....
	Total ...	83 0 0	76,275 2 9	76,358 2 9	75,711 2 9	647 0 0

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sholápur ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	270 13 0	270 13 0	270 13 0	.....	
	b. Firewood and charcoal	.....	1,766 14 6	1,766 14 6	1,766 14 6	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	2 8 0	2 8 0	2 8 0	.....	
	e. Grass and other minor produce ...	.....	37 0 0	37 0 0	37 0 0	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	59 11 3	59 11 3	59 11 3	.....	
	b. Firewood and charcoal	.....	127 5 9	127 5 9	127 5 9	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Grazing and fodder grass ...	*60 0 0	16,710 8 11	16,710 14 11	16,710 14 11	.....	* Rs. 59-10-0 written off.
	e. Other minor produce	.....	320 13 0	320 13 0	320 13 0	.....	
	III.—Confiscated, drift and waif wood ...	.....	15 1 3	15 1 3	15 1 3	.....	
	Total ...	0 6 0	19,310 11 8	19,311 1 8	19,311 1 8	.....	
Surat ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	1,954 11 9	52,976 12 11	54,931 8 8	31,522 6 0	23,409 2 8	
	b. Firewood and charcoal	.....	165 12 0	165 12 0	165 12 0	.....	
	c. Bamboos	.....	3 0 0	3 0 0	3 0 0	.....	
	d. Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	19 1 9	19 1 9	19 1 9	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	34,542 13 8	34,542 13 8	24,342 13 8	10,200 0 0	
	b. Firewood and charcoal	.....	295 10 0	295 10 0	295 10 0	.....	
	c. Bamboos	.....	8,900 12 9	8,900 12 9	8,900 12 9	.....	
	d. Grazing and fodder grass ...	.....	656 13 0	656 13 0	656 13 0	.....	
	e. Other minor produce	.....	1,038 3 10	1,038 3 10	1,038 3 10	.....	
	III.—Confiscated, drift and waif wood ...	609 13 3	385 9 5	995 6 8	385 9 5	609 13 3	
	Total ...	2,564 9 0	98,984 9 4	1,01,549 2 4	67,330 2 5	31,218 15 11	

Panch Mahals.	*I.—Timber and other produce removed from the Forests by Government Agency—*											
	a. Timber	.....		440	10	6	440	10	6	440	10	6	.....	
	b. Firewood and charcoal	.....		2,892	0	0	2,892	0	0	2,892	0	0	.....	
	c. Bamboos	.....		.....			.....			.....			.....	
	d. Sandalwood	.....		.....			.....			.....			.....	
	e. Grass and other minor produce ...	.....		.....			.....			.....			.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—											
	a. Timber	.....		47,847	15	11	47,847	15	11	47,847	15	11	.....	
	b. Firewood and charcoal	.....		949	2	3	949	2	3	949	2	3	.....	
	c. Bamboos	.....		702	14	11	702	14	11	702	14	11	.....	
	d. Grazing and fodder grass ...	.....		6,178	9	0	6,178	9	0	6,178	9	0	.....	
	e. Other minor produce	10	9	0	148	0	11	158	9	11	158	9	11	.....
	III.—Confiscated, drift and waif wood ...	.....		39	3	7	39	3	7	39	3	7	.....	
	Total ...	10	9	0	59,198	9	1	59,209	2	1	59,209	2	1	.....
Total Northern Circle ...	*I.—Timber and other produce removed from the Forests by Government Agency—*											
	a. Timber	4,283	15	0	1,55,838	5	9	1,60,122	4	9	1,34,771	5	1	25,350	15	8
	b. Firewood and charcoal	13	6	0	44,931	12	6	44,945	2	6	44,930	11	6	14	7	0
	c. Bamboos	.....			4	7	9	4	7	9	4	7	9	.....		
	d. Sandalwood	.....			2	8	0	2	8	0	2	8	0	.....		
	e. Grass and other minor produce ...	.....			21,349	15	11	21,349	15	11	21,349	15	11	.....		
	II.—Timber and other produce removed from the Forests by consumers or purcasers—											
	a. Timber	34,909	3	0	4,65,373	8	6	5,00,282	11	6	4,90,016	2	6	10,266	9	0
	b. Firewood and charcoal	.....			27,127	12	1	27,127	12	1	27,127	12	1	.....		
	c. Bamboos	.....			32,896	13	5	32,896	13	5	32,896	13	5	.....		
	d. Grazing and fodder grass ...	502	8	0	3,42,386	8	6	3,42,889	0	6	3,42,037	12	0	851	4	6
	e. Other minor produce	126	1	0	33,987	8	4	34,113	9	4	33,720	1	4	393	8	0
	III.—Confiscated, drift and waif wood ...	613	1	6	6,292	1	0	6,905	2	6	6,292	1	0	613	1	6
	Grand Total ...	40,448	2	6	11,30,191	5	9	11,70,639	8	3	11,33,149	10	7	37,489	13	8

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

B 911—50 No

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for the year 1889-90.

Divisions.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Surat	...	500 0 0	500 0 0	.....	500 0 0	500 0 0	.....	...	
Sátára	...	50 0 0	50 0 0	.....	50 0 0	50 0 0	.....	...	
Total Contractors ...	...	550 0 0	550 0 0	.....	550 0 0	550 0 0	.....	...	
Disbursers.									
North Thána	...	42,229 2 4	42,229 2 4	4 0 0	42,225 2 4	42,229 2 4	.....	...	
South Thána	0 4 0	63,093 10 7	63,093 14 7	455 4 8	62,644 11 9	63,100 0 5	6 1 10	...	
East Khándesh	...	32,704 5 2	32,704 5 2	.....	32,704 5 2	32,704 5 2	.....	...	
West Khándesh	11 8 0	43,632 7 2	43,643 15 2	14 1 7	43,789 13 6	43,803 15 1	159 15 11	...	
Násik	...	46,903 12 4	46,903 12 4	497 0 5	46,419 0 9	46,916 1 2	12 4 10	...	
Ahmednagar	...	36,318 11 10	36,318 11 10	.....	36,557 14 4	36,557 14 4	239 6 0	0 3 6	
Poona	...	51,406 13 9	51,406 13 9	.....	51,406 13 11	51,406 13 11	0 1 0	0 0 10	
Sátára	...	39,692 3 6	39,692 3 6	50 3 0	39,642 0 6	39,692 3 6	.....	...	
Sholápur	...	18,844 4 1	18,844 4 1	2 4 1	18,842 0 0	18,844 4 1	.....	...	
Surat	...	26,579 4 1	26,579 4 1	500 0 0	26,081 3 4	26,581 3 4	1 15 3	...	
Panch Mahál	...	14,991 15 0	14,991 15 0	.....	14,991 15 0	14,991 15 0	... ..	...	
Working Plans	...	1,822 7 10	1,822 7 10	... ..	1,822 7 10	1,822 7 10	.....	...	
Bombay Forest Surveys ...	...	4,837 0 8	4,837 0 8	442 0 0	6,380 10 10	6,822 10 10	1,985 10 2	...	
Total Disbursers ...	11 12 0	4,23,056 2 4	4,23,067 14 4	1,964 13 9	4,23,508 3 3	4,25,473 1 0	2,405 7 0	0 4 4	
Grand Total ...	11 12 0	4,23,606 2 4	4,23,617 14 4	1,964 13 9	4,24,058 3 3	4,26,023 1 0	2,405 7 0	0 4 4	

No. $\frac{F}{1841}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 62.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Financial Results of the year 1889-90.

Division.	TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY.		OTHER REVENUE.		FORMATION, PROTECTION, AND IMPROVEMENT of FORESTS.	TOTAL.		REMARKS.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
North Thána ...	4,222	3,241	2,62,813	9,028	69,742	2,67,035	82,011	
South Thána ...	8,941	9,081	1,90,828	4,852	88,660	1,99,829	1,02,593	
East Khándesh ...	21,834	4,695	76,135	5,608	44,029	97,969	54,332	
West Khándesh...	40,612	5,421	1,26,242	6,410	51,946	1,66,854	63,777	
Násik	8,011	2,505	81,097	2,741	61,683	89,108	66,929	
Ahmednagar ...	13,110	2,964	29,249	655	51,015	42,359	54,634	
Poona	39,888	8,308	58,073	4,061	79,385	97,961	91,754	
Sátára	27,320	9,106	48,538	5,003	56,779	75,858	70,888	
Sholápur	2,077	641	17,269	451	29,775	19,346	30,867	
Surat	31,710	18,980	36,384	9,783	28,312	68,094	57,075	
Panch Mahals ...	3,333	1,354	57,794	1,595	27,548	61,127	30,497	
Total ...	2,01,053	66,296	9,84,482	50,187	5,88,874	11,85,540	7,05,357	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

No. 5287 of 1890.

Revenue Department.

Camp Ahmedabad, 19th December 1890.

Forwarded.

The Conservator's report shows as usual a complete grasp of his subject, and Mr. Shuttleworth may, if the Commissioner may venture on the compliment, fairly take credit for the continued success of his department, which practically owes, in the Northern Circle at least, its organization and working to his own long and arduous labour. At the same time the Commissioner must admit that the results, though satisfactory to the Forest Department, are not always so much so to other departments or to the public.

2. As a good deal of correspondence has taken place only recently about the Thána forests which yield the bulk of the revenue of the Northern Circle, and as Mr. Shuttleworth has said but little about the forests of the Panch Maháls and Surat, the Commissioner will not add many remarks on this occasion.

Chapter I, paras. 18 to 25.—The figures of area for Thána appear to require explanation, though perhaps the Commissioner does not rightly understand them. As there are four tálukas as yet undemarcated and unsettled in Thána, it is plain that more than 10 square miles and 452 acres await forest settlement, and the large proportion which Protected bears to Reserved according to the table given in para. 15 is due, the Commissioner supposes, to the area in the undemarcated tálukas where most of the forest still stands as protected, having been included.

Para. 26.—Mr. Owen may have completed the Váda and Máhím reports, but they have not yet reached the Commissioner, though promised by the end of October. He believes the Váda report has been submitted to the Collector. The Commissioner has already addressed Government with a view to a Forest Settlement Officer being appointed for the remainder of the district.

Para. 42.—It is of importance that the demarcation of the boundaries of reserved forest should be pushed on; but owing to the strength of the establishment being devoted to demarcating coupes it cannot proceed so fast as the Commissioner would like. Still 155 miles in one year in Thána and 118 in the Panch Maháls is evidence of some progress. Until the people thoroughly understand the boundaries between reserved and protected and between protected and out forest, trespassing must be expected. One of the reasons why there has been trouble in Thána is that orders have been given to leave open on occasion various portions of the forests, but measures have not been taken for giving the people from time to time visible indications of the portions open.

Para 43 *et. seq.*—A great want in Thána is a code of privileges, and as the Commissioner writes, a draft which he has been expecting for six months has arrived. A knowledge on the part of all, both officials and the public, of the privileges granted is most important, the circular by Mr. Vidal on the subject needing modification in consequence of the working plans system.

Para. 54.—The Commissioner quite concurs in the value of the 8″ maps.

Para. 59 *et. seq.*—It is obvious that a forest in which free license to lop everywhere is given must suffer and the working plans system described in para. 64 affords a foundation upon which gradually much reform may be built up. It provides amply for the local needs of timber and firewood, but the ráb yield which was to be one of the fruits of it was in the year under report not taken advantage of, and indeed in North Thána the rayats were not allowed to take advantage of it. How to utilize it consistently with forest arrangements is a problem at present under consideration.

It must, at the same time be recollected that under the working plans system the whole forest will be cut down in forty years and therefore it is absolutely necessary that the Forest Department should conserve the young growth in the coupes. The Conservator in para. 68 rightly dilates on the importance of this. For, it is obvious that if, when the young teak and seedlings are shooting, cattle graze them down, fires wither them, or rayats cut them for ráb, the forest is practically destroyed for ever. The Commissioner feels, therefore, a little surprised that the Conservator has said nothing as to the measures taken for preserving the coupes. He states, indeed, that that is the duty of the Revenue Department, but conserving is the Conservator's own duty as well as cutting. What the Collector and his officers can do by their influence should and no doubt will be done. Government have indeed sanctioned the deputation of a special Revenue officer to try and induce the rayats to take the coupe ráb. But if the Forest Department does not of its own motion endeavour to induce the rayats, and indeed it put obstacles in their way last year, to take the ráb and if it then leaves valuable young saplings unguarded by fire-path, wire fence or forest guards, mischief must be expected to ensue. The Forest Department have done much in the way of cutting; they should now show their capacity for conserving, and one effectual mode of securing the co-operation of the rayats will be by helping them freely to obtain the concessions which Government have granted. But the department, smarting no doubt at the sight of damage done and determined upon preventing a repetition of, have, the Commissioner fears, yet to learn this policy, and the rayats, even rayats who would bring their custom to it and are willing to purchase forest produce, meet with but a cold welcome. A continuance of this attitude is full of risk to the working plans system, for the forests are being cut down and their reproduction must be secured at any cost. The Commissioner is bound to say at the same time that so far as he has seen himself, the young coupes have not yet suffered. But for the present, seeing that the coupe revenue is now close on four lákhs a year, it would perhaps not be too much to appoint one policeman on Rs. 8 solely to guard the young growth, say one policeman to two blocks. The Commissioner mentions policemen advisedly, as there would then be no possibility of the men being taken off for other duty and the police force supplies guards for other departments already. There are 303 blocks, and if 150 policemen were employed on Rs. 8 a month, the cost would be Rs. 14,400, say Rs. 15,000, as insurance for a revenue of almost four lakhs.

The Commissioner would invite attention to one matter, which is however a detail that the Conservator no doubt contemplates providing for. The theory is (*vide* para. 68) that for ten years the coupes should be "closed against man and beast." But this may mean that the saplings will, in the Konkan, be choked by the rank growth of grass which, if set fire to, would destroy everything. It would be well if the rayats could be induced to take away such grass for ráb or food for cattle.

In para. 67 the passage occurs: "Their highest officers have reported to Government that there are practically no complaints on the part of the people to obtain the satisfaction of their legitimate demands upon the forests." This may possibly refer to passages in paras. 1 and 6 of the Commissioner's letter No. 1712 of 21st May 1890. Para. 6, however, only referred to firewood and local timber needs. In the same letter the Commissioner pointed out that the ráb, whether from coupes or from concessions in reserved forests, had not been made available, and although at that time he had heard few complaints and those seemed capable at that time of easy remedy, the Commissioner has since heard more complaints and he fears with more experience that the remedy is not easy till the Forest Department becomes conciliatory as well as strict.

A special section should, the Commissioner recommends, be devoted, in future years, to the measures taken for protecting the coupes.

Para. 89.—In Thána, grazing difficulties are likely to be surmounted, as the Conservator proposes to allow grazing in the whole forest excepting in closed coupes, and if the forest guards are properly instructed and the coupes are clearly demarcated there should be no difficulty, though of course in years to come, when a belt of 10 coupes is interposed between a rayat and his grazing, the temptation to let the cattle out at night into the coupes close at hand, in

preference to sending them by day to a distance, will be considerable. It must however be guarded against and this makes it all the more desirable to clear away the grass out of the coupes. In special cases the omission of a compartment at intervals might be resorted to, if the Collector recommended it.

Para. 92.—A reference will be made to the Magistrate of Thána as to the reported insufficiency of pounds.

Para. 100 *et. seq.*—It is satisfactory that fires have decreased. The late Collector of Thána has recently made proposals for specially dealing with this evil, which the Commissioner has referred to the Conservator.

Para. 106 *et seq.*—The table in para. 107 contains a misnomer. The area of 4,005 acres in South Thána, which yielded only Rs. 925, or under 4 annas an acre, can scarcely be described with accuracy as "valuable kurans." The sale of this grass is contrary to the provisions of Government Resolution No. 7467 of 15th September 1885, para. 1, quoted in the margin, which are still in force in spite of the grazing rules and fees that follow having been remodelled. The reason is obvious. If the rayats of a village have been accustomed to graze in a particular locality for years, it is undesirable that a young forest officer, with the laudable desire of increasing the Government revenue, should turn them out and sell the grass, putting them to more inconvenience than the grass is worth. Government will, I hope, reiterate their views upon this subject. It is necessary that the Collector should know what are considered by the Forest Department "valuable kurans," or he cannot tell the people where they may go to graze and where they may not go. The Commissioner would suggest that the Collector and Divisional Forest Officers should jointly settle the names of the "kurans," and if at any time owing to demand for grass or other reasons the Divisional Forest Officer wishes to sell grass in other areas he can obtain the consent of the Collector who will see that grazing privileges are provided for otherwise, and that the village officers and people are told what is going to be done. It is true that the sale of so-called "kurans" throughout the circle produces 1¼ lákhs of revenue, but as the new rules raise the grazing fees and impose them on all cattle except cultivators' cattle of villages which have contributed gáirán to forest, a reduction in the proceeds from grass will be made up in another legitimate way. It is the unsettled state of things, the not knowing where to graze and where not, that causes trouble. All over the Presidency it should, the Commissioner suggests, be the rule that if any portion of forest is closed, immediate intimation should be given to the people through the Collector. They should not be left to learn it from a forest guard, whose action they may attribute to arbitrary power, and who is not empowered to listen to any complaints. The Conservator has been good enough to promise that this shall be the rule in Thána. It is only right to add that Mr. Shuttleworth has in a Circular No. 2860 of 29th August last ordered the Divisional Forest Officers and their subordinates to induce the villagers to go into the coupes and take the ráb, and if the Conservator's subordinates act in the spirit of his orders a very great step will be made. But from the Commissioner's observation, he is inclined to think that the forest subordinates, careful of course for their own reputation and afraid of damage to the forests, have done nothing as yet towards it. The best of orders is waste paper if it is not vigorously carried out.

Except in the case of any really valuable grass kurans where it has been customary to sell the grass and grazing by auction and they fetch a high price, the practice of annual auctions should be discontinued.

Para. 113.—As far as the Commissioner is aware, the object of Government in passing the recent grazing rules was to consolidate orders, bring grazing privileges under better control, and revise the fees. It is not clear how the "real interests of the rural cattle" can be furthered by charging more highly for the grazing. The Conservator seems in error in saying that "seasons of grazing" are contemplated by the rules which are silent on that subject. "Limitations of grazing" will, if the Commissioner is not mistaken, yield to a tendency to raise revenue from as many cattle as possible. Allusion is made to "illicit grazing," but customary grazing that has been enjoyed for generations should not be stigmatised as "illicit," merely because for good reasons it has now been decided to make a charge for it.

Para. 143.—The roads under construction in Thána will be of the highest value to the Forest Department, and also to the district generally.

Para. 147.—The sale of coupes to contractors is greatly to be preferred for obvious reasons to departmental sale, but when coupes are not taken up by contractors, they must be worked departmentally, or how are the people to get the ráb and firewood that has been promised to them? Not to cut a due coupe would be to break the backbone of the working plan system in Thána. Yet to cut it, and not sell the timber, is wasteful. It would be advisable to admit the people to the coupe and allow them to take the firewood and ráb, leaving the denuded trees standing. The trees will not die, and though their future growth may be impeded, they will fetch their value as timber in the succeeding year. The Commissioner is glad to learn that the Conservator has agreed to this plan, as regards ráb.

Para. 158.—The Thána forests, in spite of unsold coupes, yielded Rs. 3,80,000 worth of timber against Rs. 3,20,000 in the previous year. This is satisfactory, but, as has been observed, if the coupes are not protected, that revenue of close upon four lákhs a year will be imperilled.

Para. 162.—The slack demands in North Thána for bámboos are due, so the Commissioner was recently informed, to an enhancement of the fees, though purchasers did not object to that so much as to the strictness of forest guards who, it was said, insist on unloading every cart, and upon opening every bundle of 50 bámboos, no matter how many times the loads have been opened before, lest a portion of timber for an axle or a plough handle should be concealed within the bámboos. The Commissioner has brought the matter to the Conservator's notice. Smuggling must be prevented, and it is difficult to interfere with forest guards' discretion. But just as a custom-house officer does not examine every article of clothing in a traveller's baggage, although he has the power to do so, so forest guards might be brought to exercise their powers with judgment. It would be interesting to know the reasons for the different rates charged for bámboos. The Commissioner finds the prices fetched are as follows:—

North Thána	...	... Rs. 37 for 1,000
South Thána	...	... „ 27 „ „
East Khándesh	...	... „ 14 „ „
West Khándesh	...	... „ 10 „ „

No doubt the price near Bombay should be higher, but the cost of transport alone would scarcely explain these differences.

Para. 184.—The Commissioner concurs in the opinions recorded of Messrs. Gleadow and Millett, so far as their ability, industry, and devotion to forestry are concerned. But if those gentlemen paid equal attention to carrying out the wishes and orders of Government as regards rayats' rights and privileges, the Commissioner would have still greater pleasure in commending them. Recent orders of Government will, it is hoped, go some way to the desired end. Undoubtedly one of the chief objects of the Forest Department is to bring people into discipline and convert vague and mischievous habits into method and order. But judgment is needed for enforcement of the rigid rules of French and German conservancy upon an Oriental people, and when privileges are being curtailed and brought under control as they must be, a loyal endeavour to meet admitted needs is likely to pay in the long run. The Commissioner gladly states that in the Panch Mahálś a give-and-take policy prevails, which he would like to see in Thána. Undoubtedly the Forest Department have great difficulties for which allowance perhaps is not always sufficiently made, and they are bound to keep in view a high standard of conservancy, but a little more considerateness would, the Commissioner feels sure, tend much to reduce friction.

H. E. M. JAMES,
Commissioner, N. D.

No. $\frac{R}{5865}$ of 1890.

From

W. A. EAST, Esquire,
Acting Commissioner, C. D.;

To

The CHIEF SECRETARY to GOVERNMENT,
Revenue Department.

Poona, 23rd December 1890.

Sir,

I have the honour to submit with my remarks the Forest Administration Report of the Northern Circle for the year 1889-90 received from the Conservator with his memorandum No. 4423, dated 6th instant.

2. Paras. 18 to 21.—The addition to "Reserved Forests", as far as the Central Division is concerned, amounted to 35 square miles and 193 acres, which, with the exception of 368 acres added on account of rectification of areas or correction of book entries, represents a solid accession to the forest area. The largest addition was in the Sátára Division, and the smallest in West Khándesh.

3. Para. 22.—The statement embodied in this paragraph shows that, of the 65 tálukas in the Central Division, the demarcation work in 59 has been completed; in 5 tálukas the work has been commenced but not yet completed; and in only 1 táluka, *viz.* Sindkheda, in the Khándesh District, has the work not yet been undertaken.

4. Paras. 23 and 24.—The area of occupied lands within demarcation limits, acquired for forests, in the Central Division, was 4,352 acres and 3 gunthás. The total amount of money compensation paid for this land was Rs. 5,151-4-4. The largest area acquired was in the Ahmednagar District.

5. Paras. 25 to 33.—The only district in the Central Division in which the work of forest settlement enquiries is considerably in arrears is Khándesh. Mr. Dodgson has, however, made very satisfactory progress, as will be seen from paras. 27 and 28 of the report. It is much to be regretted that the late Collector of Násik did not, before making over charge, submit the forest settlement proposals for the Dindori Táluka to which reference is made in para. 29 of the Conservator's report. It is hoped that his successor will not allow the delay to continue. The orders of Government have now been received on the Singhar and Donja demarcation and settlement proposals, and the rights of the shetsandis determined after more than 50 years of correspondence.

6. Para. 42.—Satisfactory progress was made in the erection of special forest boundary-marks, especially in the districts of Násik and Poona.

7. Paras. 83 to 85.—Except in the East and West Divisions of Khándesh where the percentage of failures shows a marked diminution, forest prosecutions have not, as far as the Central Division is concerned, been attended with the same measure of success as during the previous year. The figures for the Poona and Sátára Districts are especially unsatisfactory. The Conservator states that "it is difficult to assign a cause for this." One cause which came to my notice, when Collector of Poona, was the considerable delay in preferring complaints of petty offences.

8. Paras. 86 to 90.—Offences of injury to forests by fire were most noticeable in the Khándesh District, more especially in the west. A large number of cases also occurred in the same district under the head of "Unauthorized fellings or appropriation of wood, &c." This, considering the wild nature of the country and people, is scarcely matter for surprise. In the Poona District too numerous cases under "Unathorized fellings and appropriation of wood, &c.," and "Grazing without permission" appear to have occurred. More than four times the cases that were taken into Court were compounded under Section 67 of the Indian Forest Act. The largest number compounded during the year under report was, as in the previous year, in the Ahmednagar District, and the

smallest in Sátára. The amount realized by the Forest Department in this manner was Rs. 17,074-15-0, of which Rs. 15,008-15-0 were on account of the Central Division.

9. Paras. 91 to 95.—The number of cattle impounded for trespassing in forest areas was exceedingly large in the Ahmednagar and Poona Districts, especially in the former; and in this respect there has been no improvement over the previous year. There is no doubt that the question of grazing is surrounded with many difficulties, and it is not easy to hit upon its satisfactory solution. The description of the barren rock tracts which constitute a large proportion of the Deccan grazing grounds as forests under regeneration and abounding in luxuriant vegetation is, to say the least, too highly coloured for the most part, and the large figures representing the number of cattle impounded suggest doubts whether the present system is not too violent a departure from old established custom. The entrustment of grazing interests to a department in its very nature hostile to them can only be regarded as an experiment which should be carefully watched. The tendency of the department is, it cannot be doubted, to subordinate all interests to the growth of timber. A diminished supply of good milk, mutton and beef is a heavy price to pay for a few square miles some decades hence of worthless scrub jungle. If the Forest Department had its way, it would abolish goats altogether and permit sheep to exist only on private land so far from forests as to be safe from straying into them. Before making over grazing land to the Forest Department it would be well if closer inquiry were held whether they could do any good with it, either directly by raising wood or indirectly by protecting the surface of the soil in exposed situations. My sympathies are entirely with the Forest Department except where there is danger of its trenching on valuable sources of food-supply without profit to its own cause. The Conservator in his remarks on the perversity of graziers seems to forget that the so-called forests are artificial creations of yesterday, whilst as grazing grounds they have existed for generations in a country which is notoriously conservative of ancient custom. They are frequently unrecognizable as forests in the common use of the term.

10. Paras. 100 to 105.—The area burned by forest fire during the year under report was, as far as the Central Division is concerned, less in every Forest Division, except East Khándesh and Poona. It is satisfactory to note that the Forest Department has received cordial assistance from village officers and forest villagers in the suppression of forest fires.

11. Paras. 106 to 114.—The revenue from grass and grazing shows a steady development on the whole, although receipts in particular districts have fallen off. The causes of the several increases and decreases have been briefly explained by the Conservator.

12. The remarks on broad-cast sowing as a means of reproduction are interesting and instructive. The mention of the usefulness of prickly-pear as protection for seedlings suggests a method whereby that much-abused plant might be turned to advantage in raising groves in the neighbourhood of villages. After its purpose had been served the prickly-pear might be removed if it were not possible to select for broad-casting seeds of trees under the shade of which it would die out.

13. Para. 166.—It is noteworthy that the number of demands for free grant of timber has very considerably decreased during the year under report. The number of grants in 1889-90 was 1,936 only as compared with 3,440 in 1888-89 and 4,049 in 1887-88.

14. The net financial results of the forest administration are satisfactory, indicating steady progress and development which are in themselves the best testimony to Mr. Shuttleworth's ever increasing experience and unflagging zeal in the department he has ably managed for so many years.

I have the honour to be,

Sir,

Your most obedient Servant,

W. A. EAST,

Acting Commissioner, C. D.

SIND CIRCLE.

No. 846 of 1890-91.

From

THE ACTING CONSERVATOR OF FORESTS,
SIND CIRCLE.

To

THE SECRETARY TO GOVERNMENT,
REVENUE DEPARTMENT,
BOMBAY.

Conservator's Office,
Hyderabad, 10th September 1890.

Sir,

I have the honor to forward herewith the Forest Administration Report of the Sind Circle for the year 1889-90, with its subsidiary statements.

I have the honor to be,

Sir,

Your most obedient Servant,

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

(Submitted through the Commissioner in Sind.)

ANNUAL FOREST ADMINISTRATION REPORT OF THE SIND CIRCLE FOR THE YEAR 1889-90.

Chapter I.

Area and Boundaries.

The following areas are reported as having been eroded and deposited by the action of the river on the forests on its banks :—

Name of Division.	Area lost by the action of the river.	Area gained by the action of the river.
	Acres.	Acres.
Sukkur	1,425	6,235
Naushahro	1,250	740
Hyderabad	1,300	550
Jerruck	200	...
Total...	4,175	7,525

These areas are mere estimates of what has taken place, and owing to the uncertain nature of the accretions should not, in my opinion, be annually

deducted from or added to the general statement of areas. On this principle annual form No. 49 for the year under report has been prepared. In order to ascertain correctly, the actual effects on the areas of the forests caused by the action of the river, a periodical revision of the forest survey should be made. The last survey having been made in 1868, it is therefore now time it should be revised.

2. I am perfectly certain that within the last twenty years the loss has been considerably in excess of the gain, notwithstanding the assiduity with which the officers of the Forest Department have watched its interests, and have constantly disputed the encroachments on the forest frontages that have been attempted from time to time by the zamindars: this procedure on the part of the Forest Officers has caused what are termed "katcha disputes" to become very troublesome, and a new set of rules for their disposal has been the result. The alluvion and diluvion rules, according to which former decisions were arrived at, are not to be applicable for the future, and it now rests with the Collectors to recognize or not, as the case may be, the claims of the Forest Department to new lands deposited by the river. Owing to the silting up of old channels, the formation of new ones, and the return of the river to one of its old beds, the disposal of kacha disputes becomes very difficult, but the statements made by Forest Officers should carry more weight than those of the zamindars, who are not very particular in what they state, as long as they can get possession of new land yielding very large returns for little or no expenditure of labour. A good deal of correspondence ensued on the first issue of these rules, the contention of the Forest Department being that they are practically illegal.

3. When the riverside forests were first notified as reserved forests, they were defined as having the river a boundary on one side, therefore it stands to reason that all new land which may subsequently have been formed by any alteration taking place in the river's course, should be regarded as belonging to the forest to which it is attached, and the boundary lines on both sides of the forest should be produced, till they touch the river in its new channel. Such accretions cannot be interfered with or given out for cultivation by the Collector, until such time as they have been disforested under the Forest Act. As the loss and gain entered in the annual statements are only vague estimates, a survey alone will show what has really happened, and if it is found that I am correct in what I have stated and the forests have lost in area, it should be made good to the department by handing over old katcha lands, of which there are extensive tracts on both banks of the river.

4. The following table gives the area of the Sind Forests as it stood on the 31st March 1889, with the areas acquired and disforested under the Forest Act:—

Name of Division	Area as it stood on 31st March 1889.				Area added during the year 1889-90.				Area excluded during the year.				Area as it stood on 31st March 1890.			
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres
Sukkur ...	445	137	1	128	13	260	...	...	12	193	...	...	446	204	1	128
Naushahro ...	233	342	...	...	...	...	...	..	...	...	...	...	233	342	...	..
Hyderabad ...	158	578	...	...	1	3	...	...	...	...	...	...	159	581	...	...
Jerruck ...	125	424	...	...	26	53	...	117	...	...	...	...	151	477	...	117
Total...	963	201	1	128	40	316	...	117	12	193	...	...	991	324	1	245

5. The sum of Rs. 1,383 was expended on the prevention of trees falling into the river, and a portion of the material thus rescued realized Rs. 2,892-7-2.

6. Areas notified under Section 19 of the Forest Act during the year under report are given below :—

Name of Forest.	Taluka.	Area in Acres.
Drago	Ghotki ...	2 5
Nurketi	Hala ...	643 5
Kacho Shah Lanko	Tatta ...	313 20
„ Aliganj		714 38
Bavo Purandas		6,413 0
Bijora		5,889 25
Chachh		3,361 27
	Total...	17,338 0

7. If the Forest Department is expected to keep up a permanent supply of fuel for the State Railway, the selection, demarcation and acquisition of new land is far from being complete, and if the wood is to be delivered at the stations at a moderate rate, the new reserves must be situated on the banks of the river, water carriage being infinitely cheaper than carts, camels or donkeys.

8. The income from firewood and charcoal in the year 1870-71 was Rs. 1,23,151, and in 1887-88 it had increased to Rs. 4,19,430. The demands, however, is still daily increasing with the introduction of steam machinery for cotton, flour and ice, and also people in Karachi and the Commissariat Department at Quetta are making inquiries for fuel. Having very nearly exhausted the supply of fuel in the Bahawalpur State, the railway authorities would be only too glad if we could make up the deficiency from the Sind forests. Large tracts of land along the river are still available, and their acquisition by the Forest Department should not be deferred.

9. In the Thar and Parkar Districts 1,39,768 acres were selected during the year under report as fuel reserves for a future railway. These lands, I think, should be handed over to the Forest Department at once, notwithstanding the proposed arrangements of the Deputy Commissioner that they should be left in his charge until the railway has been sanctioned.

10. The table given below shows the lands that have been selected for forest reservation and provisionally notified under Section 4 of the Forest Act, and the final reservation of which is still awaited :—

Name of Forest.	Taluka.	Area in Acres.
Khairwah	Jacobabad ...	56 30
Gokalpur		64 30
Tarai	Naushahro Abro.	2,349 5
Chango Rahuja		1,749 35
Choi		3,132 20
Adamji		4,352 25
Phohyri		473 4
Masti Khan		225 0
Sekhat	Hala ...	12 35

CHAPTER II.

SURVEY WORKING PLANS AND ANNUAL PLANS OF OPERATION.

11. The departmental survey of the forests on a large scale has been in progress, but the services of only one surveyor were available, the other qualified surveyor was, during the early part of November, deputed to settle the boundary line of Kacho Kanuri and remained there till January; afterwards he was attached to the Divisional Forest Officer, Hyderabad, who had received orders to inspect the land in the Thar and Parkar Districts, the acquisition of which, as fuel reserves for a proposed railway, has been under consideration.

12. The following forests were surveyed during the year under report:—

Sukkur Division.

	Area surveyed.
Abad	4,393 Acres.
Khia Bindi	1,370 „
Keti Shahu	1,500 „
Shah Belo	3,760 „

Hyderabad Division.

Kacho Khanote.

13. The work of cutting up the forests with compartment lines has progressed satisfactorily—193 miles were cut.

14. Boundary marks round all the forests have been kept in repair, and boundary paths and compartment lines have been cleared of the season's growth.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

Section 1.—*Establishments.*

15. In the year 1871-72 Government, on the report of the Inspector-General of Forests in India, (the late Dr. Brandis), deputed Dr. Schlich to examine the Sind Forests, and, if necessary, to bring them under a better system of management. The result of this examination was the formation of three separate Divisions, each under an Assistant Conservator of Forests, and the position of the subordinate staff was thereby slightly improved. The area of the State forests then was 3,52,041 acres—income, Rs. 2,42,675—expenditure, Rs. 1,44,518—surplus, Rs. 98,157. Subsequently Mr. Campbell submitted proposals for a revision of establishment, which were sanctioned in Government Resolution dated the 16th March 1876. Four Divisions were formed, an Assistant Conservator of Forests in charge of each, and the pay and prospects of the subordinate establishment were improved. In 1876-77 the area of the forests was 3,43,326 acres—income, Rs. 3,36,029—expenditure, Rs. 2,32,473—surplus, Rs. 1,03,556. Again, proposals for a permanent protective and office establishment were called for in Government Resolution No. 3687, dated the 7th June 1882, which were submitted by me in August 1883, and sanctioned from 1st April 1885.

This revision absorbed the temporary establishment. Five Divisional Offices were formed, and Rangers and Foresters were graded on higher pay.

In 1885-86 the area was 4,30,926 acres—income, Rs. 5,36,874—expenditure, Rs. 4,02,660—surplus, Rs. 1,34,214. The controlling staff then consisted of—

Colonel McRae, Conservator of Forests.

Mr. Hexton, Deputy Conservator of Forests, Hyderabad Division.

„	Dasai	„	„	Jerruck	„
„	Gleadow, Assistant	„	„	Sukkur	„
„	Neribdas, Sub-Assistant	„	„	Naushahro	„
„	Showkiram	„	„	Jacobabad	„

Since then the area in charge of the department has increased with the income and expenditure, and during the year under report reached—area 6,34,564 acres—income, Rs. 6,26,761—expenditure, Rs. 4,09,458—surplus, Rs. 2,17,303, and the controlling staff at the end of the year was as follows :—

Colonel McRae, Conservator of Forests.

Mr. Ryan, Assistant Conservator of Forests, Sukkur Division.

„	Neribdas, Sub-Assistant	„	„	Jerruck	„
„	Showkiram	„	„	Hyderabad	„
„	Tuljaram	„	„	Naushahro	„

The fifth Division, Jacobabad, was added to the Sukkur Division, all with the exception of one range, which was transferred to the Naushahro Division, and the Divisional Office was abolished from the 1st April 1887. It will be thus apparent that while the work, income, expenditure and area has during this time been steadily increasing, there has been a great reduction in the controlling staff, one Division is held charge of by an officer entirely unacquainted with English, whilst the Sukkur Division is so large that the Divisional Forest Officer cannot possibly give the necessary supervision to the forests in his charge, as he is not able to visit the whole of them once during the season. Colonel McRae has already applied for the services of one other officer, and I am of opinion that two more are absolutely necessary, one of them to be on probation learning the work, so as to be at hand to relieve any of the other officers who may be going on leave, or incapacitated through sickness.

16. Colonel J. G. McRae was at the head of the Department throughout the year.

17. Mr. G. M. Ryan was in charge of the Sukkur Division from 1st to 8th April 1889, and was transferred to the Jerruck Division, relieving Mr. A. Stewart on the 10th idem.

18. Mr. A. Stewart took charge of the Sukkur Division on the 13th April 1889 from Mr. Tuljaram, who was temporarily in charge of that Division.

19. Mr. A. Stewart proceeded on three months' privilege leave on the 18th June 1889 and was relieved by Mr. Tuljaram, Sub-Assistant Conservator of Forests, who held charge of the Sukkur Division till the 9th October, when he was relieved by Mr. Ryan, transferred from the Jerruck Division.

20. Mr. Neribdas was in charge of the Naushahro Division from 1st April to 10th October, was relieved by Mr. Tuljaram, Sub-Assistant Conservator, and proceeded to assume charge of the Jerruck Division from Mr. Ryan.

21. Mr. Tuljaram held independent charge of the Naushahro Division till the end of the year. It is very much to be regretted that this officer is unacquainted with English, the language in which all his accounts are submitted to the Accountant General, and in which more than half of his correspondence takes place. He is a very good assistant to a Divisional Forest Officer, but should never have been placed in independent charge of a Division.

22. Mr. Showkiram Pribdas, Sub-Assistant Conservator of Forests, held charge of the Hyderabad Division throughout the year.

23. The Jerruck Division was under the charge of Mr. A. Stewart till the 9th April, when he was relieved by Mr. Ryan on the 10th idem, who held charge till the 8th October 1889, and relinquished charge on the following day, being succeeded by Mr. Neribdas Jethmal.

24. Mr. A. Stewart, Deputy Conservator of Forests, was transferred to the Northern Circle, and left Sind on the 18th June 1889.

Section 2.—General Protection and Breaches of Forest Laws.

25. The case against Forester Anandrai, reported on in the concluding portion of para. 25 of last year's report, as pending in the City Magistrate's Court at Shikarpur, was committed to the Sessions Court and resulted in the acquittal of the accused. But Munshi Anandrai was dismissed the service by Colonel McRae on account of dishonesty, inefficiency, insubordination, repeated neglect of duty and disregard of orders.

26. A comparative table showing the cases tried before Magistrates for breaches of Forest laws during the year under report and the one preceding it is given below :—

Name of Division.	Number of cases tried before Magistrates.		Number of convictions.	
	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	84	65	46	45
Naushahro	8	16	7	11
Hyderabad	10	14	8	8
Jerruck	3	3	2	3
Total ...	105	98	63	67

There seems to be a reduction in the number of cases tried before the Magistrates to that of the previous year, whereas on the other hand the convictions obtained are greater. The whole of these cases are of a trifling nature, with the exception of the one given below.

Muso Bughio, a zamindar in the Labdaria Taluka, cut a broad boundary path through a part of the Kanoori Forest, with a view of adding the land so cut off to his zamindari. The matter was inquired into and a complaint was lodged against him in the 2nd Class Magistrate's Court at Labdaria, but was subsequently transferred to the Sub-Divisional Magistrate's Court at Rohri. The case was pending at the close of the year, and the services of the Public Prosecutor had been applied for and obtained.

27. The subjoined table shows the number of petty offences compounded under Section 67 of the Indian Forest Act :—

Name of Division.	Illicit grazing.		Thefts.		Other offences.		Compensation.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	514	371	73	66	7	4	2,659	1,638
Naushahro	103	146	24	17	10	42	149	226
Hyderabad	117	97	119	114	...	...	720	590
Jerruck	493	429	5	29	28	...	788	614
Total ...	1,227	1,043	221	226	45	46	4,316	3,068

It will be observed from the above table that the number of offences under illicit grazing during the year under report is considerably less than that of the preceding year. This result is due to the efficient control exercised by Forest Guards, along with the fact that, owing to the high inundation, good grazing could be had outside forest limits and cattle owners were not so much tempted to trespass.

Section 3.—Fires.

28. There is a great improvement in the figures as compared with the previous year, which is attributable to the high inundation and other causes, such as closing areas burnt against grazing.

29. The following statement gives the number of fires and the areas burnt during the last and the previous year :—

Name of Division.	Number of Fires.		Area burnt—Acres.	
	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	61	41	3,946	1,197
Naushahro	8	3	2,078	13
Hyderabad	15	7	1,013	397
Jerruck	10	8	238	96
Total ...	94	59	7,275	1,703

The area burnt by fires was not valuable but covered with grass, &c.

Section 4.—Grazing.

30. The inundation had been a high one, and in consequence the grazing was good and saved the cattle from the distress which threatened them by the failure of rain.

31. A statement of the number of cattle permitted to graze free is given below :—

Buffaloes	721
Horned cattle	3,684
Horses and donkeys	53

Section 5.—Natural Reproduction.

32. The working plan of the Sind Forests, probably already described in former reports, consists in the fencing in of compartments worked for fuel, and out of which cattle are excluded, until the coppice-shoots and seedlings are of such growth as to escape being trodden down, when buffaloes, cows and sheep are admitted, and after the tops of the young trees have attained a sufficient height to be free from harm—goats are then allowed to browse. Attention has been paid to this duty, and with satisfactory results, as far as the river-side forests are concerned; but complaints have reached me with regard to a number of the areas acquired within recent years that are situated some distance from the river. The Divisional Forest Officer, Sukkur, remarks—"As the system of irrigation in Sind is by means of canals, it is necessary to point out how very desirable it is that forests should be given to us along the river bank where floods come," and "it is better under existing conditions to abandon those Belas far removed from the river which can be irrigated by canal agency only, and secure instead Belas on the river side." Again, "there is a large area of land in the Shikarpur range, the growth in which is getting small by degrees and beautifully less, and the state of which is rapidly deteriorating into the condition of a desert." The Divisional Forest Officer, Naushahro, reports:—"If the closed blocks referred to in the foregoing two paras. do not get sufficient water, it is feared that they will be ruined soon." The forests in the other two Divisions are all, with only one or two exceptions, situated on the banks of the river, and are therefore under the influence of its floods. The above facts prove that I am right in the opinion I have already expressed to the effect that all new reserves should be selected from areas available on the river.

Section 6.—Artificial reproduction.

33. It has been ascertained that the conditions under which the forests in Sind have been formed are a sufficiency of water and the strict exclusion of cattle during the early stages of their growth. We also know that their position as regards water varies according to the eccentricities of the river, which frequently makes the very existence of the forests uncertain. I therefore think any money expended on the artificial production of forests in Sind is utterly wasted. The year's operations under this head have been restricted to the sowing of a quantity of babul seed in closed blocks, but, as a rule, this is unnecessary, and the distribution of seed may be safely left to cattle and floods which do it much more thoroughly.

Section 7.—Experiments.

34. Experiments with exotics have on the whole been failures. We find the *Dalburgia Sissu* (Tali) thrives in Upper Sind, and I believe that the *Prosopis Glandulosa* and *Acacia Catechu* (Khair) may eventually grow side by side with the Babul and Kandi, but their distribution will be very slow. Cattle, which are very fond of the legumes of the former, may hasten the process. I have long been of opinion that the *Casurina* would succeed in the sandy valley of the Malir river near Karachi, and hope to visit the locality again with the view of seeing how my old experiment has succeeded.

Section 8.—Communications and Buildings.

35. In the Sukkur Division a small house for the Naka Munshi of Jhali was built at a cost of Rs. 80. Existing buildings were repaired as usual.

36. In the Naushahro Division a compound wall was constructed round the Larkana Depôt at a cost of Rs. 65, and the necessary repairs to existing building were carried out.

37. In the Hyderabad and Jerruck Divisions nothing new was undertaken, and existing buildings were repaired.

CHAPTER IV.

YIELD AND WORKING.

SECTION 1.—DEPARTMENTAL OPERATIONS.

38. The following is the detail of the working of Depôts :—

Name of Depôt.	Stock on hand on 1st April 1889.			Added during the year 1889-90.			Disposed of during the year 1889-90.			Balance on 31st March 1889-90.		
	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.
	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.
Shikarpur	327	8,802	200	28	9,590	...	61	15,585	11	294	2,807	189
Sukkur	9,378	8,717	266	2,523	7,328	1,819	4,361	15,355	1,216	7,540	690	869
Rohri	376	847	...	396	13,861	...	232	7,571	...	540	7,137	...
Larkana	...	267	281	...	500	3,325	...	767	3,606	...	...	...
Sehwan	...	5,166	...	17	7,450	...	17	9,864	...	...	2,752	...
Tatta	221	...	...	...	...	...	221	...	...	...	...	...
Keti Bandar	333	...	1,875	9,657	...	...	9,325	...	625	665	...	1,250
Kotri	523	...	32,276	...	...	94,216	179	...	1,12,613	344	...	13,879
Hyderabad	3,051	52,349	1,645	13,159	1,15,737	68,425	12,123	1,15,176	51,780	4,087	52,910	18,290
Total ...	14,209	76,148	36,543	25,780	1,54,466	1,67,785	26,519	1,64,318	1,69,851	13,470	66,296	34,477

39. The quantity of timber and fuel sold at each Depôt is given below :—

Name of Depôt.	Timber—c. ft.		Posts and Rafters. No.		Fuel—Mds.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Shikarpur	325	61	9,947	15,585	...	11
Sukkur	3,284	4,361	6,014	15,355	1,025	1,216
Rohri	1,877	232	18,449	7,571	...	...
Larkana	...	...	1,633	767	4,428	3,606
Sehwan	...	17	13,729	9,864	...	...
Karachi	...	...	...	...	...	...
Tatta	8	221	1,640	...	...	...
Keti Bandar	7,510	9,325	...	...	812	625
Kotri	860	179	80	...	1,18,960	1,12,613
Hyderabad	6,107	12,123	1,73,566	1,15,176	87,246	51,780
Total ...	19,971	26,519	2,25,058	1,64,318	2,12,471	1,69,851

40. The following statement gives the quantity of timber supplied to the State Railway and other departments and bodies direct from the forests :—

Name of Department.	Babul logs.	Babul sleepers.	Tali logs.	Poplar bullies.
North-Western Railway	...	...	...	1,825
Karachi Harbour Works	...	1,310	...	...
Gun Carriage Department	477	...	...	...
Telegraph Department	4	...	...	...
Judicial Department, Quetta	12	...	4	...
Total ...	493	1,310	4	1,825

41. The following quantity of timber cut departmentally was disposed of to private purchasers in the forests:—

Name of Division.	Timber, c. ft.	Babul posts.	Bhan posts.	Jhau posts.	Bhan rafters.	Jhau rafters.	Kirrir rafters.	Bhan bullies.	Babul pieces.	Babul slabs.
		No.	No.	No.	No.	No.	No.	No.	No.	No.
Sukkur	227	...	...	...	30	...	...	1,825	...	...
Naushahro	2,336	50	25	....	505	4,970	950	...	...	...
Hyderabad	31	...	...	...	...	...	...	...	40	345
Jerruck	1,389	...	...	300	...	...	...	...	...	...
Tatal ...	3,983	50	25	300	535	4,970	950	1,825	40	345

42. All the depôts have been worked departmentally, with the exception of the one in Hyderabad, which is managed on the share system as heretofore.

43. In the Sukkur Division there is an improvement in the sales at all the depôts excepting Rohri, but it is mainly due to a better demand for poplar for building purposes, caused by the damage which the heavy floods brought about, and also to a reduction in depôt rates sanctioned by Government in their Resolution No. 3490, dated the 11th May 1889. As directed by Government in the Resolution quoted above, a report was submitted to Government through the Commissioner in Sind which led to a correspondence regarding the levy of duty on foreign timber imported into Sind, but the matter remained unsettled at the close of the year.

44. In the Naushahro Division there is a decrease in the sales of posts and rafters in the Larkana and Sehwan depôts, owing to there being no demand for them.

45. In the Hyderabad Division there is an increase in the sale of timber at the Hyderabad depôt, due to a better quality having been brought by the share contractor, but there is a marked decrease in the sale of rafters, which may be attributed to the dullness of the market. The decrease in the sale of timber in the Kotri depôt is due to the Port Engineer, Karachi, having taken 1,310 sleepers instead of 4,002, which he took in the previous year. The import of firewood from jagir and revenue lands gave a blow to the sales in the Hyderabad depôt.

46. The timber shown in stock in the Keti Bandar depôt of the Jerruck Division was cut for the Gun Carriage Factory, Bombay.

47. The statement given below shows the quantity of firewood supplied to the State Railway and other Public Departments and bodies during the previous and the year under report:—

To whom supplied.	Firewood in Maunds.	
	1888-89.	1889-80.
North-Western Railway	3,72,476	18,16,614
Commissioner's Steamer "Jhelum"	13,925	17,992
Indus Ferry Steamers	1,61,350	79,794
River Conservancy Department	6,295	7,557
Public Works Department	222	644
Karachi Harbour Works	50,827	24,150
Commissariat Department	24,857	24,325
Hyderabad Water-Works	41,000	37,000
Sukkur Municipality	3,550	5,810
Hyderabad Jail	2,572	2,888
Government Farm, Hyderabad	7,750	7,750
Total	6,84,824	20,24,524

There is a large increase in the quantity of locomotive fuel supplied to the North-Western Railway. This work was done by contracts in all the divisions excepting Hyderabad, where it was carried out departmentally in a most satisfactory manner by Mr. Showkiram Pribdas, Sub-Assistant Conservator of Forests.

Section 2.—Removal of produce by purchasers.

48. The following is a statement of the value of timber and firewood removed from the forests other than that removed under the Permit Pass system :—

Name of Division.	Timber.		Firewood.	
	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.
Sukkur	5,231	3,447	1,011	1,050
Naushahro	712	977	1,133	1,358
Hyderabad	2,515	2,020	2,934	2,945
Jerruck	934	797	368	444
Total	9,392	7,241	5,446	5,797

49. The following statement gives the receipts at each Ghāt for the last two years :—

Name of Division.	Name of Ghāt.	Revenue realized.	
		1888-89.	1889-90.
		Rs.	Rs.
Sukkur	Rahuja, Jhali, Rohri	10,763	12,269
	Sadar, Stewart, Khura	13,708	12,671
Naushahro	Larkana	2,666	2,000
	Garhi Yasin	848	1,201
Hyderabad	New Fuleli, Old Fuleli, Hajipur	2,125	1,217
	Total	30,110	29,358

There is a slight falling off under this head, which is due to a larger number of passes having been issued by the Revenue Department for wood collected on waste lands in the Hyderabad Collectorate.

Section 3.—Free Grants.

50. Timber, to the value of Rs. 559-0-7, was given as free grants to poor agriculturists and villagers living in and near the forests, against Rs. 1,653-12-0 worth given the year before.

Section 4.—Summary of Produce.

51. The following is a statement of the timber worked out by departmental agency :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	6,721	4,881	6,927	13,753	26,827	26,613
Naushahro	1,422	2,353	829	552	37,843	8,121
Hyderabad	8,150	17,251	5,726	2,232	1,68,166	1,11,920
Jerruck	8,089	10,935	1,627	300	1,913	1,020
Total	24,382	35,420	15,109	16,837	2,34,749	1,47,674

52. The quantity of timber removed by purchasers is as under :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	6,434	4,291	1,579	393	1,10,852	45,905
Naushahro	2,223	4,624	200	643	8,167	15,916
Hyderabad	5,932	4,372	4,302	841	15,495	8,935
Jerruck	2,171	705	909	1,111	1,762	10,790
Total	16,760	13,992	6,990	2,988	1,36,276	81,546

53. The total yield in timber of each description is given below :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	13,155	9,172	8,506	14,146	1,37,679	72,518
Naushahro	3,645	6,977	1,029	1,195	46,010	24,037
Hyderabad	14,082	21,623	10,028	3,073	1,83,661	1,20,855
Jerruck	10,260	11,640	2,536	1,411	3,675	11,810
Total	41,142	49,412	22,099	19,825	3,71,025	2,29,220

54. The total yield in firewood of each Division is as under :—

Name of Division.	Firewood—Mds.	
	1888-89.	1889-90.
Sukkur	7,43,008	14,32,838
Naushahro	1,60,255	5,32,341
Hyderabad	3,05,813	5,41,425
Jerruck	2,11,590	1,72,958
Total	14,20,666	27,19,562

55. The total yield in charcoal is as follows:—

Name of Division.	Charcoal—Mds.	
	1888-89.	1889-90.
Sukkur	2,167	1,573
Naushahro	4,408	5,124
Hyderabad	3,962	2,143
Jerruck	31,941	33,596
Total	42,478	42,436

56. The total yield in timber, firewood and charcoal is given below:—

Timber	1888-89	C. ft.	41,142
	1889-90	„	49,412
Posts	1888-89	No.	22,099
	1889-90	„	19,825
Rafters	1888-89	„	3,71,025
	1889-90	„	2,29,220
Sleepers	1888-89	„	4,002
	1889-90	„	1,310
Firewood	1888-89	Mds.	14,20,666
	1889-90	„	27,19,562
Charcoal	1888-89	„	42,478
	1889-90	„	42,436

57. The realizations from the sale of farms to collect minor produce are given in the following statement:—

Name of Division.	Babul Pods.		Lac.		Munj & Sar Grass.		Fishery.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Sukkur	455	365	...	...	681	662	1,933	1,349
Naushahro	3,518	3,415	...	...	503	520	779	793
Hyderabad	9,555	10,967	778	840	...	79	503	663
Jerruck	3,630	3,937	...	...	...	...	277	1,011
Total	17,158	18,684	778	840	1,184	1,261	3,492	3,816

There are two points to be noticed here—one is the increase from babul pods due to the crop being an unusually good one, and the other is the right of fishing in the Jerruck Division, due mainly to the acquisition of katchas in the Tatta Taluka.

58. The present arrangement for the disposal of babul bark is as follows:—The share contractor connected with the Hyderabad depôt has agreed to prepare 5,000 maunds yearly and sell it at the depôt by auction or retail sale, his share being nine annas and-a-half in the rupee of the gross receipts. This is satisfactory, inasmuch as the net profit to Government is Rs. 20-5-0 per 100 maunds.

59. The revenue from grazing fees was as under:—

Name of Division.	Grazing fees.	
	1888-89.	1889-90.
	Rs.	Rs.
Sukkur	17,656	16,017
Naushahro	8,875	9,256
Hyderabad	16,379	17,064
Jerruck	14,270	14,854
Total	57,180	57,191

60. The area under cereal cultivation and the amount realized by assessment is as under:—

Name of Division.	Area under cultivation.				Amount realized by assessment.			
	Kharif.		Rabi.		Kharif.		Rabi.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Sukkur	950	735	2,760	3,031	2,200	1,714	9,855	11,321
Naushahro	679	942	3,556	3,312	1,847	2,549	9,323	9,264
Hyderabad	571	519	805	792	1,448	1,381	1,973	1,739
Jerruck	513	556	320	68	1,924	1,908	665	120
Total	2,713	2,752	7,441	7,203	7,419	7,552	21,816	22,444

The practice of giving land for cultivation within forest limits has so long existed, and the present prosperous condition of the forests depends so much on the assistance willingly given by the zamindars who enjoy the privilege, that the practice cannot be put an end to without disastrous effects, great hardship to the zamindars, and with the certainty of rendering a friendly population into a hostile one; but steps are being taken to limit the area, and during the year no new land has been given out for cultivation.

Section 5.—Export of Forest Produce.

61. Four hundred and seventy-seven babul logs were exported to Bombay for the use of the Gun Carriage Factory.

CHAPTER V.

Financial Results.

62. The total receipts and expenditure during the last two years are as follows:—

	Actuals, 1888-89.	Actuals, 1889-90.	Increase.	Decrease.
Receipts ..... Rs.	4,15,867	6,26,762	2,10,895	...
Expenditure A. Conservancy & Works ,,	1,85,884	3,11,423	1,25,539	...
Do. B. Establishment ..... ,,	1,00,227	98,036	...	2,191
Total .....Rs.	2,86,111	4,09,459	1,23,348	...
Net Revenue ... ,,	1,29,756	2,17,303	87,547	...

The net revenue of the year is the largest that has ever been obtained in the Sind Circle. Firewood and charcoal, chiefly supplied to the Railway, &c., are the main items, and during the year under report from these sources the department realized Rs. 4,20,381, at the cost of Rs, 2,80,435, the net profit being Rs. 1,39,946. This is most satisfactory. There has been, however, a further reduction in expenditure under B. Establishment of Rs. 2,191. Since the year 1886-87 there has been a reduction under this head of Rs. 15,577, which is, I consider, very doubtful policy, when there has been a very large increase in area, income and expenditure.

General Remarks.

63. Colonel McRae has left the following note on record:—

"I inspected the greater part of the reserves in Upper and Central Sind, but had not time to go down to Lower Sind. The forests I inspected were in a splendid state of preservation, and the evidence of careful protection left very little to be desired. The state of some of the inland reserves is very unsatisfactory for want of water, but this is beyond the control of this department, as the canal power in the district is insufficient to spare water for the irrigation of reserves. This is a question that requires very careful study and representation to Government in the public interests."

"The want of irrigation does not only retard the growth of trees but causes an absence of grazing for cattle, and I think the latter is quite as important a consideration as the former, both as regards the comfort and well-being of the people and the forest revenue from grazing fees."

"I inspected the books and records of all the Divisional Offices and found them in a satisfactory condition."

"The Divisional Forest Officers have done their duty with zeal and efficiency, and the conduct of the subordinate establishment has been satisfactory."

64. Mr. Permanand, Accountant, and Mr. Lilaram, Head Clerk in the Conservator's Office, continue to deserve the praise recorded by Colonel McRae in last year's report.

W. S. HEXTON,

Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49.

ANNUAL FORM

FOREST DEPARTMENT, BOMBAY,

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889. Acres.	Equivalent in square miles.	Added during the year. Acres.
Sukkur	Shikarpur.	Raoti	8,129	13	...
		Jamshero	6,616	10	...
		Daresh	1,725	3	...
		Ubauro	3,150	5	...
		Mirpur	7,251	11	...
		Raharki	1,654	3	...
		Reti	2,338	4	...
		Rangu	972	2	...
		Narli	1,376	2	...
		Sarhad	3,529	6	...
		Islam	2,064	3	...
		Jehanpur	4,340	7	...
		Babab	8,985	14	...
		Budh	1,217	2	...
		Sadhuja	13,642	21	...
		Shahpur	11,215	18	...
		Pahwari	587	1	...
		Hussenbeli	3,407	5	...
		Azizpur	880	1	...
		Ding	1,543	2	...
		Syedpur	8,216	13	...
		Rohri	22,551	35	...
		Kote Shahu	...	...	...
		Sultanpur	1,753	3	...
		Saliani	5,014	8	...
		Ghotki	4,200	7	...
		Adilpur	12,674	20	2
		Walu Mahar	2,648	4	...
		Samowah	2,252	4	...
		Vasir	1,417	2	...
		Jarwar	2,839	4	...
		Abad	5,604	9	...
		Kadirdini Bindi	2,306	4	...
		Khia Bindi	3,118	5	...
		Shah	13,433	21	...
		Bindi Dhárejá	6,954	11	...
		Kadrapur	2,564	4	...
		Mohro Mari	11,857	19	...
		Andaldal	12,193	19	...
		Bagarji	13,920	22	...
		Raiswah	905	1	...
		Lakhi	3,614	6	...
		Ghari Halim	2,096	3	...
		Kote Sultan	17,342	27	...
	Upper Sind Frontier.	Abad	1,127	2	...
		Mehrabpur	1,457	2	...
		Dilawarpur	1,439	2	...
		Milkiat Sircar	930	1	993
		Bakapur	8,359	13	1,480
		Dilmurad	1,104	2	37
		Zangipur	5,359	8	...
		Sarki	3,706	6	67
		Beluchabad	1,100	2	...
		Korar	887	1	...
		Mirpur	6,978	11	...
		Jangan	2,291	4	...
		Karampur	6,060	9	...
		Sadhuja	...	...	6,001
		Total	2,84,937	447	8,580
Naushahro	Shikarpur.	Dosu	4,033	6	...
		Keti Ubhuro	5,575	9	...
		Kanuri	3,630	6	...
		Sharifpur	1,027	2	...
		Bahman	1,547	2	...
		Naoabad	2,205	3	...
		Phati Bilawal	711	1	...
		Amroti	11,684	18	...
		Muso	5,930	9	...
		Kasimshah	2,107	3	...
		Nari	1,522	2	...
		Magsi	1,483	2	...
		Dangar	3,685	6	...
		Soi	5,108	8	...
		Bulo Dero	1,555	2	...
		Ghangharko	5,849	9	...
		Gaji Dero	4,333	7	...
		Garhi Yasin	25,328	40	...
	Hyderabad.	Bhour	10,539	16	...
		Mohbatdero	8,045	13	...
		Samtia	3,390	5	...
		Kamaldero	1,365	2	...
		Bhorti	10,790	17	...
		Dalipota	867	1	...
		Khairodero	13,073	20	...
		Lalia	4,192	7	...
		Carried over	1,39,573	216	...

...	8,129	13		
...	6,616	10		
...	1,725	3		
...	3,150	5		
...	7,251	11		
...	1,654	3		
...	2,388	4		
...	972	2		
...	1,376	2		
...	3,529	6		
...	2,064	3		
...	4,340	7		
...	8,985	14		
...	1,217	2		
6,001	7,641	12	4362 of 20th June 1889.	Transferred to Upper Sind Frontier District.
...	11,215	18		
...	587	1		
...	3,407	5		
...	880	1		
...	1,543	2		
...	8,216	13		
...	22,551	35		
...	...	...	.....	Washed away by the river.
...	1,753	3		
...	5,014	8		
...	4,200	7		
...	12,676	20	3181 of 30th April 1889.	
...	2,648	4		
...	2,252	4		
...	1,417	2		
...	2,839	4		
...	5,604	9		
...	2,306	4		
...	3,118	5		
...	13,433	21		
88	6,866	10	7263 of 27th Sept. 1889.	
...	2,564	4		
...	11,857	19		
...	12,193	19		
...	13,920	22		
...	905	1		
...	3,614	6		
...	2,096	3		
...	17,342	27		
142	985	2	.....	Rectification of area as ascertained by actual measurement by the Survey Settlement, *Vide* Deputy Commissioner, Upper Sind Frontier District's letter No. 3727 of 7th Oct. 1889.
466	991	2		
514	925	1		
...	1,923	3		
...	9,839	15		
...	1,141	2		
25	5,334	8		
...	3,773	6		
335	765	1		
12	875	1	.....	*Vide* remark against Forests in the Upper Sind Frontier District. Acres.
...	6,978	11		Area according to this form..... 2,84,937
...	2,291	4	.....	
290	5,770	9	7672 of 11th October 1889.	Add result of the annual estimates of loss and gain by action of the river during the past four years 7,508
...	6,001	9	4362 of 20th June 1889.	
7,873	2,85,644	448		Total shown in statement for 1888-89.. 2,92,445
...	4,033	6		
...	5,575	9		
...	3,630	6		
...	1,027	2		
...	1,547	2		
...	2,205	3		
...	711	1		
...	11,684	18		
...	5,930	9		
...	2,107	3		
...	1,522	2		
...	1,483	2		
...	3,685	6		
...	5,108	8		
...	1,555	2		
...	5,849	9		
...	4,333	7		
...	25,328	40		
...	10,539	16		
...	8,045	13		
...	3,390	5		
...	1,365	2		
...	10,790	17		
...	867	1		
...	13,073	20		
...	4,192	7		
...	1,39,573	216		

			Brought over ...	1,39,573	216	...
Naushahro—*Contd.*	Karachi.	Karampur		2,924	5	...
		Baghban		1,947	3	...
		Bhan		1,138	2	...
		Phaka		2,207	3	...
		Kalubori		748	1	...
		Pipri		925	1	...
			Total ...	1,49,462	231	...
Hyderabad	Hyderabad.	Lakhat		6,330	10	...
		Nasri		1,556	2	...
		Mad		2,642	4	...
		Mehrabpur		3,338	5	...
		Mari		14,753	23	...
		Pai		5,130	8	...
		Keti Jurio		2,125	3	...
		Rano		1,627	3	...
		Nurketi		3,418	5	643
		Kacho Nurketi		...	...	...
		Bhaiote		841	1	...
		Khanote		8,666	14	...
		Khebrani		760	1	...
		Sekhat		2,067	3	...
		Jakhri		1,926	3	...
		Matiari		5,354	8	...
		Ghali		3,041	5	...
		Miani		4,917	8	...
		Kathri		756	1	...
		Gandi		2,150	3	...
		Muhammad Khan...		181	...	...
		Jam Shoro		292	...	...
		Shah Makai...		411	1	...
		Keti Mehrani		5,523	9	...
	Karachi.	Gidarji		855	1	...
		Butto		7,748	12	...
		Manjhand		1,539	2	...
		Unarpur		10,705	17	...
		Ghag		1,296	2	...
		Karokho		1,701	3	...
			Total ...	1,01,698	157	643
Jerruck	Karachi.	Viran		9,142	14	...
		Sonda		2,114	3	...
		Hilaya		2,898	5	...
		Lalang		5,151	8	...
		Shah Lanko		1,690	3	...
		Garko		4,079	6	...
		Kacho Shahlanko...		...	...	313
		Do. Ali Gunj		...	...	715
		Do. Bavo Purandas		...	...	6,413
		Do. Bijora		...	...	5,890
		Do. Chach		...	...	3,362
		Malir		24	...	...
		Kacho Alibahar		3,000	5	...
		Do. Surjani		3,410	5	...
		Do. Kote Almo		2,335	4	...
		Penah		6,169	10	...
		Susati		39	...	...
		Khirsar		1,380	2	...
		Huderani		5,511	9	...
		Surjani		1,364	2	...
		Janj		2,228	3	...
		Hazari		2,483	4	...
		Makbulo		496	1	...
		Laikpur		7,406	12	...
		Khadi		4,500	7	...
		Phatah		258	...	...
		Mulchand		5,454	9	...
	Hyderabad.	Husri		420	1	...
		Khatro		416	1	...
		Khathar		2,975	5	...
		Katiar		952	1	...
		Khirdahi		290	...	...
		Tikhur		1,709	3	...
		Khokhar		1,556	2	...
		Bud-ka-Takar		975	2	...
			Total ...	80,424	117	16,693
			Grand Total ...	6,16,521	952	25,916

Conservator's Office;
Hyderabad, 10th September 1890.

No. 49.

Sind Circle.—Area of Reserved Forests, 1889-90.

Excluded or transferred to other heads.	Area on 31st March 1890.		No. and date of Notification of addition or transfer.	Remarks.
Acres.	Acres.	Equivalent in square miles.		
...	1,39,573	216		
...	2,924	5		
...	1,947	3		Acres.
...	1,138	2		Area according to this form..... 1,49,462
...	2,207	3		Deduct result of the annual estimates of loss and gain by action of the river during the past four years 5,285
...	748	1		
...	925	1		
...	1,49,462	231		Total shown in statement for 1888-89.. 1,44,177
...	6,380	10		
...	1,556	2		
...	2,642	4		
...	3,338	5		
...	14,753	23		
...	5,130	8		
...	2,125	3		
...	1,627	3		
...	4,061	6	5442 of 29th July 1889.	
...	...	...	.....	Washed away by the river.
...	841	1		
...	8,666	14		
...	760	1		
...	2,067	3		
..	1,926	3		
...	5,354	8		
...	3,041	5		
...	4,917	8		
...	756	1		
...	2,150	3		
...	181	...		
...	292	...		
...	411	1		
...	5,523	9		
...	855	1		
...	7,748	12		Acres.
...	1,539	2		Area according to this form..... 1,01,698
...	10,705	17		Add result of the annual estimates of loss and gain by action of the river during the past four years 6,694
...	1,296	2		
...	1,701	3		
...	1,02,341	158		Total shown in statement for 1888-89.. 1,08,392
...	9,142	14		
...	2,114	3		
...	2,898	5		
...	5,151	8		
...	1,690	3		
..	4,079	6		
...	313	...	6326 of 27th Aug. 1889.	
...	715	1		
...	6,413	10		
...	5,890	9		
...	3,362	5		
...	24	...		
...	3,000	5		
...	3,410	5		
...	2,335	4		
...	6,169	10		
...	39	...		
...	1,380	2		
...	5,511	9		
...	1,364	2		
...	2,228	3		
...	2,483	4		
...	496	1		
...	7,406	12		
...	4,500	7		
...	258	...		
...	5,454	9		
...	420	1		
...	416	1		
...	2,975	5		
...	952	1		Acres.
...	290	...		Area according to this form..... 80,424
...	1,709	3		Deduct result of the annual estimates of loss and gain by action of the river during the past four years 2,180
...	1,556	2		
...	975	2		
...	97,117	142		Total shown in statement for 1888-89.. 78,244
...	6,34,564	979		

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—AREA OF PROTECTED FORESTS, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on the 1st April 1889. Acres.	Area on the 1st April 1889. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on the 1st March 1890. Acres.	Area on the 1st March 1890. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
Sukkur	Upper Sind Frontier...	Macaulay	183	...	...	...	183	...		
		Dickinson	585	1	...	...	585	1		
		Total ...	768	1	...	...	768	1		
Jerruck	Karachi	Kacho Sonda	...	...	117	...	117	...	5726 of 7th Aug. 1889.	
		Total ...	768	1	117	...	885	1		

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 50.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—PROSECUTION OF BREACHES OF FOREST RULES DURING 1889-90.

Forest Division and Civil District.	Cases pending from 1888-89.	New Cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of the year.
		Injury to forests by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Upper Sind Frontier District.														
Sukkur Division	4	...	40	2	8	50	54	33	43	19	34	52	77	2
Shikarpur District.														
Sukkur Division	4	1	8	2	4	15	19	12	33	4	28	16	61	3
Naushahro „	...	...	7	1	1	9	9	6	14	2	4	8	18	1
Hyderabad District.														
Naushahro Division	...	...	3	...	...	3	3	1	1	1	3	2	4	1
Hyderabad „	...	...	7	...	5	12	12	7	12	5	26	12	38	...
Karachi District.														
Naushahro Division	...	...	4	...	...	4	4	4	4	...	...	4	4	...
Hyderabad „	...	...	1	...	1	2	2	1	1	...	...	1	1	1
Jerruck „	...	...	2	1	...	3	3	3	7	...	...	3	7	...
Total ...	8	1	72	6	19	98	106	67	115	31	95	98	210	8

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 51.

FOREST DEPARTMENT, SIND CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1889, to accompany report for 1889-90.

Division.	Forest tracts.	Year in which commenced.	Area actually protected up to 15th June 1889.	During dry season.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failure.	Area actually protected.		
			Acres.	Acres.	Acres.	Acres.		
Sukkur	Mirpur	Not known ...	43,022	47,237	15	47,222		
	Ghotki		26,025	26,032	18	26,014		
	Sadhuja		78,201	81,910	1,160	80,750		
	Abad		49,996	50,173	.....	50,173		
	Sukkur		26,505	27,063	2	27,061		
	Shikarpur	1887-88	23,955	22,957	.....	23,957		
	Jacobabad	1885-86	14,078	15,367	.....	15,367		
	Thul	1885-86	27,485	26,927	2	26,925		
Naushahro	Bakrani	Not known ...	17,856	18,103	.....	18,103		
	Kandiaro		18,765	18,765	3	18,762		
	Sehwan		185	310	10	300		
Hyderabad	Rano	Do.	10,319	10,720	200	10,520		
	Unarpur		12,588	13,050	.....	13,050		
	Miani		3,283	3,833	197	3,636		
	Kotri		2,000	500	.....	500		
Jerruck	Viran	Do.	3,068	3,885	56	3,829		
	Shahbandar		8,405	8,863	40	8,823		
	Mulchand		5,880	6,020	.....	6,020		
	Katiar		1,603	1,603	.....	1,603		
	Total ...	.....	3,73,219	3,84,318	1,703	3,82,615		

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 52.

AREA OF PLANTATIONS, 1889-90.

ANNUAL FORM No. 52.

FOREST DEPARTMENT, SIND CIRCLE.—AREA OF PLANTATIONS, 1889-90.

Division.	Name of Plantation.	Area in Acres.				Receipts of the year.	Charges of the year.	Remarks.
		On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1889.			
	Regular Plantations.							
Sukkur ...	Aliwahan Garden	20	...	...	20	12	84	
	Rahuja Nursery	10	...	...	10	202	491	
	Sadhuja Plantation	25	...	...	25	22	84	
	Shah do.	7	...	...	7	...	84	
Hyderabad ...	Devi-Devi Plantation	13	...	...	13	323	196	
	Bamboo do	13	...	...	13	...	96	
	Miani Bungalow, Mango and Monument Gardens ...	12	...	...	12	80	577	
Jerruck ...	Malir Nursery	24	...	...	24	20	90	
	Sonda do.	5	...	...	5	110	57	
	Total Regular Plantations ...	129	...	...	129	859	1,759	
	Cultural Operations.							
Sukkur ...	Abad	35	...	...	35	...	...	
	Bindi Dhareja	114	...	...	114	...	42	
	Shah	8	20	...	28	...	...	
	Mohro Mari	45	...	...	45	...	...	
	Khia Bindi	...	22	...	22	...	...	
	Rohri	45	...	...	45	...	...	
	Syedpur	8	...	...	8	...	...	
	Changni	2	...	...	2	...	...	
	Saliani	20	...	...	20	...	..	
	Sultanpur	10	...	...	10	...	...	
	Azizpur	20	...	...	20	...	...	
	Adilpur	35	4	...	39	...	76	
	Samowah	22	...	...	22	...	...	
	Dickinson	3	...	...	3	..	...	
	Total ...	367	46	...	413	...	118	
Naushahro ...	Bhour	24	850	...	874	...	...	
	Mohbatdero	800	...	800	...	...	...	800 acres opened to grazing.
	Bhorti	...	50	...	50	...	...	
	Kamaldero	...	100	...	100	...	...	
	Dalipota	125	...	...	125	...	...	
	Karampur	25	...	...	25	...	...	
	Phaka	145	105	...	250	...	9	

	Pipri	...	...	...	...	140	127	...	267	...	... 5
	Baghan	...	...	...	...	...	17	...	17	...	
	Kalubori	...	...	...	...	...	20	...	20	...	...
	Bhan	...	...	...	...	68	32	...	100	...	5
	Sharifpur	...	...	...	...	45	...	...	45	...	5
	Amrote	...	...	...	...	60	...	...	60	...	...
	Gajidero	...	...	...	...	10	5	...	15	...	...
				Total	...	1,442	1,306	800	1,948	...	24
Hyderabad...	Mari	...	...	...	...	7	480	...	487	...	...
	Nurketi	...	...	...	...	340	80	...	420	...	...
	Mad...	...	...	...	...	166	160	...	326	...	...
	Rano	...	...	...	...	...	50	...	50	...	...
	Keti Jurio	...	...	...	...	...	160	...	160	...	...
	Mehrabpur	...	...	...	...	...	160	...	160	...	...
	Butto	...	...	...	...	1,475	480	...	1,955	...	...
	Manjhand	...	...	...	...	108	50	...	158	...	...
	Unarpur	...	...	...	...	665	480	...	1,145	...	...
	Khanote	...	...	...	...	...	25	...	25	...	...
	Matiari	...	...	...	...	320	...	...	320	...	...
	Miani	...	...	...	...	690	20	...	710	...	...
	Mahamad Khan...		...	...	...	181	...	...	181	...	...
	Kathri	...	...	...	...	...	50	...	50	...	...
	Shah Makai	...	...	...	...	43	...	...	43	...	...
	Jamshoro	...	...	...	...	23	...	...	23	...	...
				Total	...	4,018	2,195	...	6,213	...	...
Jerruck	Mulchand	...	...	...	...	232	30	...	262	...	...
	Khadi	...	...	...	...	...	40	...	43	...	...
	Penah	...	...	...	...	13	...	...	13	...	...
	Laikpur	...	...	...	...	277	...	...	277	...	...
	Viran	...	...	...	...	785	...	...	785	...	...
	Garko	...	...	...	...	598	...	10	508	...	...
	Shah Lonko	...	...	...	...	190	8	...	198	...	...
	Sonda	...	...	...	...	88	...	...	88	...	...
	Hilaya	...	...	...	...	197	...	...	197	...	...
	Tikhur	...	...	...	...	24	...	...	24	...	...
	Khathar	...	...	...	...	67	60	67	60	...	...
	Katiar	...	...	...	...	24	...	...	24	...	...
	Khatro	...	...	...	...	...	17	...	17	...	...
	Budka	...	...	...	...	82	25	...	107	...	...
	Lalang	...	...	...	...	15	...	...	15	...	...
				Total	...	2,592	180	77	2,695	...	...
	Total Cultural operations...				...	8,419	3,727	877	11,269	...	142
	Grand Total of Regular and Cultural Operations.					8,548	3,727	877	11,398	859	1,901

10 Acres were opened to grazing.

67 Acres Do. do.

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 54.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF TIMBER AND FIREWOOD DURING THE YEAR 1889-90.

Division.	Description of Material.	Outturn in Cubic feet.								Remarks.		
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by						
						Government Agency.	Purchasers.	Free grant.	Right holders.			
Sukkur	Babul logs...	862	...	...	862	2,308	374	25	...	1,845 C. feet removed out of last year's outturn		
	Bahan „	4,443	...	...	4,443	2,241	2,402	159	...	359	Do.	Do.
	Tali „	324	...	...	324	282	22	...	...			
	Bahan dasas	456	...	...	456	30	...	...	...			
	Babul „	71	...	...	71	20	...	...	...			
	Babul posts	55	...	...	55	20	35	...	...			
	Bahan „	2,281	...	...	2,281	8,507	146	7	...	6,379	Do.	Do.
	Babul cart-axles	...	192	...	192	217	30	...	...	95	Do.	Do.
	Tali pieces	7	...	...	7	...	...	...	...			
	Kandi logs	835	...	...	835	...	794	41	...			
	Jhâu and Asri logs	854	...	...	854	...	699	155	...			
	Kandi and Jhâu posts	63	...	...	63	...	63	...	...			
	Kandi rafters	323	...	...	323	...	323	...	...			
	Kirir rafters	...	2,822	...	2,822	...	2,822	...	...			
	Bahan „	14,874	...	...	14,874	12,177	1,149	232	...			
	Poplar bullies	913	...	...	913	913	...	...	...			
	Jhâu rafters	...	20,254	...	20,254	...	18,619	1,635	...			
	Babul rafters	11	...	...	11	...	11	...	...			
	Locomotive fuel	...	46,71,738	...	46,71,738	48,03,590	62,200	...	...	1,94,052	Do.	Do.
	Firewood	...	29,77,162	...	29,77,162	4,29,935	26,70,793	...	...	1,23,566	Do.	Do.
	Charcoal	...	7,079	...	7,079	...	7,079	...	...			
	Total...	26,372	76,79,247	...	77,05,619	52,60,240	27,67,561	2,254	...			
Naushahro	Babul logs...	7,177	...	...	7,177	2,241	4,329	300	...			
	Bahan „	119	...	...	119	79	40	...	...			
	Ber „	75	...	...	75	...	75	...	...			
	Tali „	20	...	...	20	...	20	...	...			
	Kandi „	193	...	...	193	33	160	...	...			
	Babul posts	48	...	...	48	31	17	...	...			
	Bahan „	325	...	...	325	521	310	...	...	506	Do.	Do.
	Bahan rafters	4,163	...	...	4,163	4,677	251	...	...	765	Do.	Do.
	Bahan thin rafters	150	...	...	150	100	150	...	...	100	Do.	Do.
	Kirir rafters	...	4,745	...	4,745	475	4,270	...	...			

	Jháu rafters	...	6,443	...	6,443	2,869	3,288	420	...	134	Do.	Do.
	Kándi pegs	...	58	...	58	...	58	...	...			
	Jháu bairs	...	21	...	21	...	21	...	...			
	Jháu posts	72	...	...	72	...	72	...	...			
	Firewood	...	5,57,928	...	5,57,928	1,16,741	4,35,969	...	...			
	Locomotive fuel	...	22,36,942	...	22,36,942	22,52,292	...	...	...	15,350	Do.	Do.
	Charcoal	...	23,058	...	23,058	18,347	4,711	...	...			
	Total...	12,342	28,29,195	...	28,41,537	23,98,406	4,53,741	720	...			
Hyderabad... ...	Babul logs...	17,525	...	...	17,525	12,141	4,263	324	...			
	Bahan logs	504	...	...	504	203	59	...	...			
	Babul bolsters	50	...	...	50	97	...	...	...	47	Do.	Do.
	Babul sleepers	3,549	...	...	3,549	4,585	...	...	...	1,036	Do.	Do.
	Babul planks	10	...	...	10	4	...	...	...			
	Babul slabs	118	...	...	118	221	10	...	...	113	Do.	Do.
	Babul rafters	135	...	...	135	2	116	...	...			
	Babul posts	118	...	...	118	...	118	...	...			
	Bahan dasas	25	...	...	25	...	...	...	...			
	Bahan posts	1,581	...	...	1,581	1,384	403	...	...	206	Do.	Do.
	Bahan rafters	58,779	...	...	58,779	55,960	3,002	100	...	283	Do.	Do.
	Jháu rafters	1,975	...	...	1,975	...	1,250	25	...			
	Kirir knees	...	...	...	...	5	...	...	...	5	Do.	Do.
	Jháu bairs	36	...	...	36	...	36	...	...			
	Kirir rafters	100	...	...	100	...	100	...	...			
	Nim logs	40	...	...	40	...	40	...	...			
	Jar rafters...	100	...	...	100	...	...	100	...			
	Firewood	...	15,71,670	...	15,71,670	10,97,125	4,40,660	405	...			
	Charcoal	...	11,889	...	11,889	9,643	...	...	...			
	Locomotive fuel	...	19,00,298	...	19,00,298	17,67,723	...	...	...			
	Total...	84,645	34,83,857	...	35,68,502	29,49,093	4,50,057	954	...			
Jerruck	Babul logs...	12,089	...	...	12,089	10,935	705	368	...			
	Babul posts	...	689	...	689	...	689	...	...			
	Jháu posts	...	186	...	186	186	...	...	...			
	Babul bolsters	...	...	...	...	111	...	...	...	111	Do.	Do.
	Babul planks	...	35	...	35	...	35	...	...			
	Jháu rafters	...	4,519	...	4,519	...	4,069	450	...			
	Kirir rafters	...	510	...	510	510	...	...	...			
	Jháu bairs	...	1	...	1	...	1	...	...			
	Babul rafters	...	1,326	...	1,326	...	1,326	...	...			
	Jháu brushwood	...	14	...	14	...	14	...	...			
	Firewood	...	8,79,201	...	8,79,201	7,64,728	35,019	...	...			
	Locomotive fuel	...	5,04,880	...	5,04,880	2,30,430	...	...	...			
	Charcoal	...	1,62,900	...	1,62,900	1,51,182	...	...	...			
	Total...	12,089	15,54,261	...	15,66,350	11,58,082	41,858	818	...			

Conservator's Office,
Hyderabad, 10th September 1890

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 54. A.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF TIMBER AND FIREWOOD DURING THE YEAR 1889 90.

Division.	Description of material.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government agency.	Purchasers.	Free grant.	Right holders.	
Sukkur	Babul logs...	107	...	...	107	...	107	...	...	
	Babul cart-axles	...	113	...	113	...	113	...	...	
	Jháu rafters	...	125	...	125	...	125	...	...	
	Firewood	...	2,113	...	2,113	...	2,113	...	...	
	Total...	107	2,351	...	2,458	...	2,458	...	...	

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 55.

FORM No. 55.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF MINOR FOREST PRODUCE.

Division.	Description of produce.	Produce removed or utilized										Remarks.
		By Government agency.		By purchasers.		By free grant.		By right holders.		Total.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
			Rs.		Rs.		Rs.		Rs.		Rs.	
Sukkur	Babul and Kandi pods	...	...	Contract.	365	...	...	...	...	Contract.	365	
	Munj and reed	...	...		653	...	...	...	...		653	
	Kanh grass	...	...	Bdls. 32	2	...	...	...	...	Bdls. 32	2	
	Reed grass	...	...	„ 112	9	...	...	...	...	„ 112	9	
	Dabh grass	...	...	Mds. 845	53	...	...	...	...	Mds. 845	53	
	Jháu brushwood	...	...	„ 5,786	303	Bdls. 102	6	...	...	„ 5,786 & Bdls. 102	309	
	Tooth brushes	...	...	Bdls. 2	1	...	...	...	...	Bdls. 2	1	
	Lotus	...	...	...	2	...	...	...	...	...	2	
	Potash	...	...	Contract.	61	...	...	...	...	Contract.	61	
	Branchwood	...	...	C. ft. 500	4	...	...	...	...	C. ft. 500	4	
	Compensation for damaging branches of trees	...	...	...	41	...	...	...	...	...	41	
	Til seed	...	...	...	2	...	...	...	...	...	2	
	Ber fruit	...	...	...	11	...	...	...	...	...	11	
	Babul seed	Mds. 23	13	...	...	...	...	...	...	Mds. 23	13	
	Fruit, &c.	...	367	...	...	...	...	...	...	...	367	
	Grazing fees	...	...	...	16,017	...	...	...	...	...	16,017	
	Total	23	380	...	17,524	...	6	...	...	...	17,910	
Naushahro	Babul pods	...	...	Contract.	3,415	...	...	...	...	Contract.	3,415	
	Sur grass	...	...	...	500	...	...	...	...	...	500	
	Do.	...	...	Bdls. 317	20	...	...	...	...	Bdls. 317	20	
	Ber fruit	...	...	Contract.	32	...	...	...	...	Contract.	32	
	Branches of trees	...	...	Compensation.	52	...	...	...	...	Compensation.	52	
	Babul bark	...	...	Mds. 8	1	...	...	...	...	Mds. 8	1	
	Jháu brushwood	Bdls. 200	16	Bdls. 1,152	72	...	...	...	...	Bdls. 1,352	88	
	Babul seed	Mds. 26	45	...	...	...	...	...	...	Mds. 26	45	
	Honey	...	...	Seers. 6	2	...	...	...	...	Seers. 6	2	
	Grazing fees	...	...	...	9,256	...	...	...	...	...	9,256	
	Total	...	61	...	13,350	...	...	...	...	...	13,411	

| | | |

ANNUAL FORM No. 56.

FOREST DEPARTMENT, SIND CIRCLE.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1889-90.

	Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	Balance at the commencement of the year.				
	Sale Depôts.				
Sukkur Division.	Babul logs	726	5,092		
	Bahan logs	418	3,832		
	Tali logs	6	32		
	Bahan and babul dasas	328	1,125		
	Babul posts	254	...		
	Bahan posts	11,869	...		
	Bahan rafters	6,097	...		
	Babul cart axles	146	...		
				19,844	10,081
	Forest Depôts.				
	Bahan rafters	20	...		
	Babul posts	10	...		
				30	...
	Sale Depôts.				
Naushahro Division.	Babul sleepers	28	...		
	Bahan posts	1,406	...		
	Bahan rafters	3,560	...		
	Jháu rafters	267	...		
	Bhan thin rafters	200	...		
				5,461	...
	Forest Depôt				
	Babul logs	30	165		
	Bahan rafters	130	...		
				160	165

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
TIMBER.				
Removed by Purchasers from Depôts.				
Babul logs	2,112	23,390		
Do.	1	...		
Bahan logs	304	2,385		
Tali logs ...	14	244		
Babul bolsters	42	229		
Babul planks	4	...		
Bahan and babul dasas	16	50		
Babul sleepers	1,310	...		
Babul cart axles	434	...		
Babul posts	32	...		
Bahan posts	16,768	...		
Bahan rafters	1,45,233	...		
Babul rafters	4	...		
Kirir rafters	1,020	...		
Jháu rafters	767	...		
Babul outer slabs	98	...		
Kirir knees	10	...		
			1,68,169	26,298
Sold Locally.				
Babul logs	461	3,774		
Babul pieces	40	...		
Bahan logs	23	138		
Kandi logs...	48	33		

		Sale Depôts.									
Hyderabad Division.	Babul logs	...	...	...	...	205	3,051				
	Bahan posts	...	...	...	...	1,582	...				
	Bahan rafters	...	...	...	...	50,766	...				
	Kirir rafters	...	...	...	...	1	...				
	Babul outer slabs	...	...	...	...	86	...				
	Babul logs	...	...	...	...	2	...				
	Babul bolsters	...	...	...	...	111	523				
	Babul sleepers	...	...	...	...	296	...				
	Kirir knees	...	...	...	...	50	...				
								53,099	3,574		
		Forest Depôts.									
	Babul logs	...	...	...	...	8	...				
	Babul outer slabs	...	...	...	...	158	...				
	Babul sleepers	...	...	...	...	4	...				
								170	...		
		Sale Depôts.									
Jerruck Division.	Babul logs	...	...	...	...	38	554				
								38	554		
		Forest Depôts.									
	Babul logs	...	...	...	...	317	3,794				
								317	3,794		
	Total Balance.....					...	...	79,119	18,168		

Sukkur Division.	Tali logs...	...	...	...	...	4	38				
	Babul posts	...	...	...	...	50	..				
	Bahan posts	...	...	...	...	25	...				
	Bahan rafters	...	...	...	...	535	...				
	Bahan bullies	...	...	...	...	1,825	...				
	Jháu rafters	...	...	...	...	4,970	...				
	Kirir rafters	...	...	...	...	950	...				
	Babul outer slabs	...	...	...	...	345	...				
	Jháu posts	...	...	...	...	300	...				
								9,576	3,983		
		Used by Department.									
	Babul logs	...	...	...	...	1	6				
	Bahan rafters	...	...	...	...	60	...				
								61			
		Converted in Sale Depôts.									
	Babul logs	...	...	...	...	26	201				
								26	201		
		Transferred to other Depôts.									
	Babul lobsters	...	...	...	...	3	14				
								3	14		
		Written off.									
	Babul planks	...	...	...	...	2	...				
								2	...		
		BALANCE AT CLOSE OF THE YEAR.									
		Sale Depôts.									
	Babul logs	...	...	...	...	602	3,247				
	Bahan logs	...	...	...	...	391	3,473				
	Tali logs...	...	...	...	...	7	52				
	Bahan and babul dasas	...	...	...	...	473	1,602				
	Bahan rafters	...	...	...	...	8,751	...				
	Bahan posts	...	...	...	...	1,580	...				
	Babul posts	...	...	...	...	255	...				
	Babul cart axles	...	...	...	...	35	...				
	Tali pieces	...	...	...	...	13	...				
								12,107	8,374		
		Forest Depôts.									
	Babul posts	...	...	...	...	10	...				
								10			

Received from Forests in Sale Depôts.

Babul logs	...	2,166	22,657
Bahan logs	...	297	2,268
Tali logs	...	15	264
Bahan and babul dasas	...	186	527
Babul sleepers	...	1,014	...
Babul cart axles	...	323	...
Babul posts	...	33	...
Bahan posts	...	5,332	...
Bahan rafters	...	1,45,782	...
Jháu rafters	...	1,900	...
Kirir rafters	...	1,020	...
Babul outer slabs	...	12	...
Tali pieces	...	13	...
		1,58,093	25,716

Received in Forest Depôts.

Babul logs	...	508	4,051
Babul pieces	...	47	...
Bahan logs	...	23	138
Kandi logs	...	48	33
Tali logs	...	4	38
Babul posts	...	50	...
Bahan posts	...	25	...
Bahan rafters	...	385	...
Bahan bullies	...	1,825	...
Jháu rafters	...	4,970	...
Kirir rafters	...	950	...
Babul outer slabs	...	137	...
Jháu posts	...	300	...
		9,322	4,260

Naushahro Division.	*Sale Depôts.*				
	Babul sleepers	...	28	...	
	Bahan posts	...	591	...	
	Bahan rafters	...	2,161	...	
					2,780
	Forest Depôts.				
	Babul logs	...	80	472	
					80 472
Hyderabad Division.	*Sale Depôts.*				
	Babul logs	...	331	3,845	
	Babul logs	...	1	...	
	Bahan logs	...	20	242	
	Bahan dasas	...	25	...	
	Bahan posts	...	1,250	...	
	Bahan rafters	...	50,200	...	
	Jháu rafters	...	1,400	...	
	Kirir rafters	...	1	...	
	Babul outer slabs	...	17	...	
	Babul rafters	...	34	...	
	Babul planks	...	10	...	
	Babul bolsters	...	73	344	
	Kirir knees	...	40	...	
					53,402 4,431
	Forest Depôts.				
	Babul sleepers	...	4	...	
	Babul logs	...	8	...	
	Babul pieces	...	7	...	
					19 ...

Received by conversion in Sale Depôts.						
Babul bolsters	4	50				
Babul planks	16	...				
Babul rafters	38	...				
Babul outer slabs	17	...				
			75	50	Jerruck Division.	Sale Depôts.
Received by transfer from Sale Depôts.					Babul logs	63 665
						63 665
					Forest Depôts.	
Babul bolsters	3	14			Babul logs	314 3,764
			3	14		314 3,764
Total Timber.....			2,46,612	48,208	Total Timber.....	2,46,612 48,208

FIREWOOD AND CHARCOAL.

Balance at commencement of the Year.

	Sale Depôts.							
Sukkur Division.	Firewood	Mds.	58,767	...	58,767	12,145		
	Locomotive fuel	C. ft.	...	12,145				
	Forest Depôts.							
	Firewood	...	13,402	2,46,220	13,402	2,46,220		
	Sale Depôts.							
Naushahro Division.	Firewood	Mds.	281	...	281	...		
	Forest Depôts.							
	Firewood	Mds.	4,127	...	4,162	2,25,750		
	Locomotive fuel	C. ft.	...	2,25,750				
	Babul seed	Mds.	35	...				
	Sale Depôts.							
Hyderabad Division.	Firewood	Mds.	33,921	...	34,155	60,690		
	Locomotive fuel	...	...	60,690				
	Babul seed	Mds.	55	...				
	Charcoal	...	179	...				
	Forest Depôts.							
	Firewood	Mds.	2,398	...	2,398	...		

FIREWOOD AND CHARCOAL.

Removed by Purchasers from Sale Depôts.

Firewood	Mds.	2,29,467	...			
Locomotive fuel	...	...	9,05,495			
Charcoal...	Mds.	1,710	...			
Bamboo...	Nos.	15	...			
Babul seed	Mds.	56	...	2,31,248	9,05,495	
Forest Depôts.						
Firewood	Mds.	1,02,566	...			
Locomotive fuel	...	...	82,87,145			
Charcoal	Mds.	38,106	...			
Babul seed	...	232	...			
Jháu brushwood	...	200	...	1,41,104	82,87,145	
WRITTEN OFF.						
Sale Depôts.						
Firewood...	Mds.	281	...	281	...	
Transferred to Sale Depôts.						
Firewood	Mds.	1,637	3,195	1,637	3,195	
Used by Department.						
Babul seed	Mds.	73	...	73	...	
WRITTEN OFF.						
Firewood	Mds.	531	...			
Locomotive fuel	C. ft.	...	23,220	531	23,2	

Jerruck Division.	*Sale Depôts.*							
	Firewood		Mds.	1,875	...			
						1,875	...	
	Forest Depôts.							
	Firewood		Mds.	39,694	...			
	Locomotive fuel		...	...	1,31,245			
	Charcoal		Mds.	2,037	...			
	Babul seed		„	420	...			
						42,151	1,31,245	
	Total Balance...			...	...	1,57,191	6,76,050	
	Received from Forests in Sale Depôts.							
	Firewood		Mds.	2,08,804	...			
	Locomotive fuel		C. ft.	...	8,49,706			
	Charcoal		Mds.	2,209	...			
	Babul seed		„	1	...			
	Bamboo		...	15	...			
						2,11,029	8,49,706	
	Received in Forest Depôts.							
	Firewood		Mds.	1,14,713	...			
	Locomotive fuel		C. ft.	...	86,21,210			
	Charcoal		Mds.	40,710	...			
	Babul seeds		...	115	...			
	Jhâu brushwood		Bundles.	200	...			
						1,55,738	86,21,210	
	Received by Conversion on Sale Depôts.							
	Locomotive fuel		C. ft.	...	117			
						...	117	
	Total ..			...	...	5,23,958	1,01,47,083	

	BALANCE AT CLOSE OF THE YEAR.							
Sukkur Division.	*Sale Depôts.*							
	Firewood		Mds.	40,481	...			
	Locomotive fuel		C. ft.	...	15,443			
						40,481	15,443	
	Forest Depôts.							
	Firewood		Mds.	11,745	...			
	Locomotive fuel		C. ft	...	45,675			
						11,745	45,675	
Naushahro Division.	*Sale Depôts*			...	...	...	...	
	Forest Depôts.							
	Firewood		Mds.	5,181	...			
	Locomotive		C. ft.	...	2,10,400			
	Babul seed		Mds.	25	...			
						5,206	2,10,400	
Hyderabad Division.	*Sale Depôts*							
	Firewood		Mds.	32,169	...			
	Locomotive fuel		C. ft.	...	1,720			
	Charcoal		Mds.	678	...			
						32,847	1,720	
	Forest Depôts.							
	Firewood		Mds.	5,200	1,93,265			
						5,200	1,93,265	
Jerruck Division.	*Sale Depôts.*							
	Firewood		Mds.	1,250	...			
	Locomotive fuel		C. ft.	...	...			
						1,250	...	
	Forest Depôts.							
	Firewood		Mds.	47,474	...			
	Locomotive fuel		C. ft.	...	4,61,525			
	Charcoal		Mds.	4,641	...			
	Babul seed		Mds.	240	...			
						52,355	4 61,525	
	Total.....			...	...	5,23,958	1,01,47,083	

Conservator's Office,
Hyderabad,
10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 57.

Forest Department, Sind Circle.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1889-90.

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Sukkur Division.	*Sale Depôts.*								
	Babul logs	726	5,092	2,546	602	3,247	1,623	...	...
	Bahan logs	418	3,832	1,916	391	3,473	1,736	...	...
	Tali logs	6	32	7	7	52	26	...	...
	Bahan dasas	254	853	191	383	1,279	287	...	...
	Babul dasas	74	272	56	99	223	62	...	...
	Babul posts	254	...	81	255	...	82	...	...
	Bahan posts	11,869	...	4,748	1,580	...	505	...	...
	Bahan rafters	6,007	...	854	8,751	...	1,225	...	...
	Babul cart axles	146	...	37	35	...	9	...	...
	Tali pieces	...	...	...	13	...	3	...	...
	Total	19,844	10,081	10,436	12,107	8,374	5,558	...	4,878
	Forest Depôts.								
	Bahan rafters	20	...	2	...	...	...	...	...
	Babul posts	10	...	2	10	...	2	...	...
	Total	30	...	4	10	...	2	...	2
	Sale Depôts.								
	Firewood	58,767	...	10,578	40,481	...	7,286	...	...
	Locomotive fuel	...	12,145	638	...	15,443	810	...	...
	Total	58,767	12,145	11,216	40,481	15,443	8,096	...	3,120
	Forest Depôts.								
	Firewood	13,402	...	1,603	11,745	...	1,409	...	...
	Locomotive fuel	...	2,46,220	9,110	...	45,675	914	...	...
	Total	13,402	2,46,220	10,718	11,745	45,675	2,323	...	8,395
Naushahro Division.	*Sale Depôts.*								
	Babul sleepers	28	...	50	28	...	7	...	...
	Bahan posts	1,406	...	288	591	...	96	...	...
	Bahan rafters	3,560	...	362	2,161	...	219	...	...
	Bahan thin rafters	200	...	12	...	...	...	...	...
	Jhán rafters	267	...	9	...	...	...	...	...
	Total	5,461	...	661	2,780	...	322	...	339
	Forest Depôts.								
	Babul logs	30	165	25	80	472	80	...	...
	Bahan rafters	130	...	4	...	...	...	...	...
	Total	160	165	29	80	472	80	51	...
	Sale Depôts.								
	Firewood	281	...	51	...	...	...	...	51
	Forest Depôts.								
	Firewood	4,127	...	415	5,181	...	905	...	...
	Locomotive fuel	...	2,25,750	7,716	...	2,10,400	6,832	...	...
	Babul seed	35	...	52	25	...	25	...	...
	Total	4,162	2,25,750	8,183	5,206	2,10,400	7,762	...	421

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Hyderabad Division.	*Sale Depôts.*								
	Babul logs	205	3,051	1,525	331	3,845	1,922	...	...
	Babul logs	2	...	2	1	...	1	...	...
	Bahan logs	...	...	...	20	242	121	...	...
	Bahan posts	1,582	...	633	1,250	...	500	...	...
	Bahan rafters	50,766	...	5,584	50,200	...	5,522	...	...
	Bahan dasas	...	...	...	25	...	25	...	...
	Babul sleepers	296	...	888	...	...	...	...	...
	Babul slabs	86	...	21	17	...	4	...	...
	Babul planks	...	...	...	10	...	10	...	...
	Babul rafters	...	...	...	34	...	8	...	...
	Babul bolsters	111	523	523	73	344	344	...	...
	Kirir knees	50	...	3	40	...	3	...	...
	Kirir rafters	1	...	...	1	...	...	...	...
	Jhâu rafters	...	...	...	1,400	...	70	...	...
	Total	53,099	3,574	9,179	53,402	4,431	8,530	...	649
	Forest Depôts.								
	Babul logs	8	...	6	8	...	6	...	...
	Babul sleepers	4	...	8	4	...	8	...	...
	Babul slabs	158	...	5	...	...	...	...	...
	Babul pieces	...	...	...	7	...	1	...	...
	Total	170	...	19	19	...	15	...	4
	Sale Depôts.								
	Firewood ....Mds...	33,921	...	6,106	32,169	...	5,790	...	...
	Locomotive fuel	...	60,690	2,367	...	1,720	67	...	...
	Charcoal	179	...	100	678	...	380	...	...
	Babul seed	55	...	27	...	...	...	...	...
	Total	34,155	60,690	8,600	32,847	1,720	6,237	...	2,363
	Forest Depôts.								
	Firewood	2,398	...	240	5,200	...	520	...	...
	Locomotive fuel	...	...	...	...	1,93,265	4,445	...	...
	Total	2,398	...	240	5,200	1,93,265	4,965	4,725	...
Jerruck Division.	*Sale Depôts.*								
	Babul logs	38	554	583	63	665	998	415	...
	Forest Depôts.								
	Babul logs	317	3,794	474	314	3,764	471	...	3
	Sale Depôts.								
	Firewood	1,875	...	337	1,250	...	225	...	112
	Forest Depôts.								
	Firewood	39,694	...	4,763	47,474	...	5,697	...	...
	Locomotive fuel	...	1,31,245	3,345	...	4,61,525	10,642	...	...
	Charcoal	2,937	...	733	4,641	...	1,671	...	...
	Babul seed	420	...	210	240	...	120	...	...
	Total firewood, &c...	42,151	1,31,245	9,051	52,355	4,61,525	18,130	9,079	...

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

BUDGET HEADS.	Direction.	Hyderabad Division.	Jerruck Division.	Naushaharo Division.	Sukkur Division.	Total during 1889-90.
REVENUE.						
I. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—						
a. Timber	...	26,840 13 9	11,914 8 5	1,650 3 3	9,606 14 3	50,012 7 8
b. Firewood and Charcoal	...	95,135 7 8	46,675 12 4	86,343 6 8	1,92,226 2 7	4,20,380 13 3
c. Bamboos	...	4 11 0	...	...	...	4 11 0
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	14 10 0	1 0 0	61 0 9	380 3 1	456 13 10
II. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS—						
a. Timber	...	2,020 6 9	796 13 6	977 3 9	3,446 15 6	7,241 7 6
b. Firewood and Charcoal	...	4,162 3 9	444 0 5	4,558 11 1	25,990 4 1	35,155 3 4
c. Bamboos	...	...	...	...	...	...
d. Grazing and fodder Grass	...	17,064 9 0	14,853 11 0	9,255 12 0	16,017 2 5	57,191 2 5
e. Other minor produce	...	12,733 0 7	4,251 9 1	4,093 11 6	1,507 2 10	22,585 8 0
III. CONFISCATED, DRIFT AND WAIF WOOD	...	...	...	...	35 14 0	35 14 0
IV. REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—						
a. Duty on Foreign Timber and other forest produce	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...
V. MISCELLANEOUS—						
a. Fines and forfeitures	...	...	...	1 8 0	15 0 0	16 8 0
b. Refunds	17 8 0	...	300 0 0	...	...	317 8 0
c. Other sources	...	4,464 8 3	3,016 5 5	12,803 3 7	13079 6 10	33,363 8 1
Total Revenue	17 8 0	1,62,440 6 9	82,253 12 2	1,19,744 12 7	2,62,305 1 7	6,26,761 9 1
EXPENDITURE.						
A. CONSERVANCY AND WORKS.						
I. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—						
a. Timber	...	10,635 9 3	7,347 12 0	405 14 2	2,649 5 10	21,038 9 3
b. Firewood and Charcoal	...	57,177 10 11	31,981 8 2	57,479 2 8	1,33,796 13 6	2,80,435 3 3
c. Bamboos	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	...	16 12 0	25 0 9	...	41 12 9
II. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS	...	5 0 0	6 6 0	132 10 6	2 4 0	146 4 6
III. CONFISCATED, DRIFT AND WAIF WOOD	...	...	...	...	0 4 10	0 4 10
IV. REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—						
a. Duty on Foreign Timber and other forest produce	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...
V. RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT	...	...	...	...	...	...
VI. LIVE STOCK, STORES, TOOLS AND PLANT—						
a. Purchase of Cattle	...	100 0 0	...	...	...	100 0 0
b. Feed and keep of Cattle	...	49 11 0	...	...	115 7 0	165 2 0
c. Stores, Tools and Plant	...	91 12 6	3 0 0	1 0 0	37 8 6	133 5 0
VII. COMMUNICATIONS AND BUILDINGS—						
a. Roads and Bridges	...	...	...	...	...	...
b. Buildings	...	67 14 6	4 0 0	83 3 9	114 1 2	269 3 5
c. Other Works	...	...	...	...	16 4 6	16 4 6
VIII. DEMARCATION, IMPROVEMENT AND EXTENSION OF FORESTS—						
a. Demarcation	...	...	...	293 11 0	4 5 3	298 0 3
b. Compensation for Land and Rights	...	...	...	...	...	...
c. Surveys and working Plans	...	247 0 0	1,819 4 3	601 1 0	1,144 6 6	3,811 11 9
d. Plantations	...	869 4 7	146 14 2	24 7 10	1,841 14 11	2,882 9 6
e. Protection from Fire	...	...	...	...	...	...
f. Other Works	...	801 7 9	320 13 0	692 7 2	238 10 11	2,053 6 10
IX. MISCELLANEOUS—						
a. Refunds	...	...	...	...	...	...
b. Law Charges	...	...	...	...	...	...
c. Other Charges	...	5 0 0	19 9 6	...	6 4 0	30 13 6
TOTAL A. CONSERVANCY AND WORKS	...	70,050 6 6	41,665 15 1	59,738 10 10	1,39,967 10 11	3,11,422 11 4
B. ESTABLISHMENTS.						
I. SALARIES—						
a. Conservators	17,650 2 11	...	...	...	...	17,650 2 11
b. Superior Officers	...	2,100 0 0	4,250 0 0	2,195 2 7	5,179 13 6	13,725 0 1
c. Subordinate Forest and Depôt Establishments	...	8,859 0 10	5,918 7 2	7,623 15 2	15,571 10 0	37,973 1 2
d. Office Establishments	3,572 10 4	1,538 14 2	1,313 3 1	1,280 7 5	1,818 9 0	9,523 12 0
e. Deputation and Special Allowances	70 0 0	...	...	...	...	70 0 0
II. TRAVELLING ALLOWANCES—						
a. Conservators	2,436 4 0	...	...	...	...	2,436 4 0
b. Superior Officers	...	1,200 0 0	1,589 8 0	1,209 5 1	1,826 14 6	5,825 11 7
c. Subordinate Forest and Depôt Establishments	...	807 2 4	561 10 5	625 9 1	1,132 9 3	3,126 15 1
d. Office Establishments	1,137 5 0	576 9 9	452 3 8	417 7 5	736 11 9	3,320 5 7
III. CONTINGENCIES—						
a. Stationery	2 6 9	77 15 0	62 11 1	90 7 6	194 2 0	427 10 4
b. Carriage of Tents and Records	202 14 0	132 14 9	153 9 8	133 2 9	60 9 0	683 2 2
c. Rents, Rates and Taxes	206 9 10	240 0 0	272 6 8	240 0 0	72 0 0	1,031 0 6
d. Pay of Police Guards	...	...	...	...	...	...
e. Official Postage	156 9 0	141 4 0	170 15 0	260 14 6	436 7 6	1,166 2 0
f. Sundries	288 4 11	185 7 1	242 8 9	206 3 8	154 2 3	1,076 10 8
TOTAL B. ESTABLISHMENTS	25,723 2 9	15,859 3 11	14,987 3 6	14,282 11 2	27,183 8 9	98,035 14 1
GRAND TOTAL OF EXPENDITURE	25,723 2 9	85,909 10 5	56,653 2 7	74,021 6 0	1,67,151 3 8	4,09,458 9 5

No. F. / 14832.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Bombay,
12th August 1890.

R. LOGAN,
Accountant General, Bombay.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—ACCOUNT CURRENT FOR THE YEAR 1889-90.

To Cash Balance			69 11 10		
,, VIII—Assessed Taxes—Income tax			995 7 2		
,, IX—Forests			6,26,761 9 1		
,, XXII.—Receipts-in-aid of superannuation			1,873 9 9		
,, Subscription to the Military Fund			3,479 8 6		
,, Revenue Deposits, Forests—					
Advances Recoverable—					
,, Forest advances	1,56,100 3 1				
,, Objection book advances	450 0 0				
,, Tentage advances	300 0 0		1,56,850 3 1		
,, Cash recoveries			15 5 4		
,, Cheques and Bills, Departmental Cheques—					
Forests			4,13,355 8 1		
Forest Remittances—					
Remittances to Treasuries—					
,, Inter-Divisional Transfers	11,884 3 7				
,, Inter-Departmental Transfers	90 3 0		11,974 6 7		
Account between India and Bombay—					
III.—Items adjustable, Bengal W. F. Pension Fund			86 5 0		
Account between Bombay, and P. W. D., Bombay (Ordinary Branches)—					
IV.—Items adjustable by P. W. D.			75 0 0		
Account between Bombay and P. W. D., (Railway Branches)—					
IV.—Items adjustable by P. W. D., (N.-W. Railway)			944 0 0		
XIX.—Education—					
Miscellaneous (Local)—					
,, Sale proceeds of books			13 0 0		
Grand Total Rs.			12,16,493 10 5		

By Refunds and Drawbacks—			
,, Refunds Divided Heads, Forests			13 0 0
,, 11 Forests			4,09,458 9 5
,, 19 Law and Justice—			
Jails—			
District Jails—			
Contingencies, Miscellaneous Office expenses			641 9 2
,, Revenue Deposits			1,888 8 9
,, Advances Recoverable—			
Forest advances	1,57,144 2 9		
Tentage advances	500 0 0		
Objection book advances	450 0 0		1,58,094 2 9
,, Cash Recoveries			15 5 4
,, Cheques and Bills—			
(Departmental Cheques)—			
,, Forest			2,003 14 1
,, 26 Scientific and other Minor Departments—			
Experimental Farm, Farming charges			180 0 0
Forest Remittances—			
Remittances to Treasuries	2,70,624 4 11		
Inter-Divisional Transfers	11,814 3 7		
Inter-Departmental Transfers			2,82,439 8 6
Account between Bombay and Millitary Bombay—			
IV.—Items adjustable by Millitary Miscellaneous			19,516 8 2
Account between Bombay and P. W. D., Ordinary Branches—			
IV.—Items adjustable by P. W. D., Inter Departmental charges			510 5 11
Account between Bombay and P. W. D., (Railway Branches)—			
IV.—Items adjustable by P. W. D., (N.-W. Railway)			3,40,917 8 9
,, 3 Land Revenue—			
Charges of District Administration—			
General Establishment—			
Salaries—			
Assistant Collector	145 2 7		
Allowances—			
Travelling and Tentage allowance to Officers	36 8 11		
,, 19 Law and Justice—			
Criminal Courts—			
Assistant Collector and Magistrate	145 2 7		
Allowances—			
Travelling and Tentage allowance	36 8 11		
			363 7 0
Account between Bombay and Telegraph—Miscellaneous—			62 13 0
Account between Central Provinces and Bombay—			
III.—Items adjustable by Central Provinces—			
Advances Recoverable			300 0 0
Cash Balances			59 6 1
Grand Total Rs.			12,16,493 10 5

No. 14829.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General, Bombay.

ANNUAL FORM No. 60.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE—REVENUE RECEIVED AND OUTSTANDINGS ON ACCOUNT OF REVENUE DURING 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sukkur	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	9,606 14 3	9,606 14 3	9,606 14 3	.....	
	(b) Firewood and charcoal	.....	1,92,296 14 7	1,92,296 14 7	1,92,226 2 7	70 12 0	The outstandings under V. C. at the end of the year amount to Rs. 44-11-0.
	(e) Grass and other minor produce	.....	380 3 1	380 3 1	380 3 1	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	3,446 15 6	3,446 15 6	3,446 15 6	.....	
	(b) Firewood and charcoal	.....	26,036 14 9	26,036 14 9	25,990 4 1	46 10 8	
	(d) Grazing and fodder grass	.....	16,017 2 5	16,017 2 5	16,017 2 5	.....	
	(e) Other minor produce	.....	1,507 2 10	1,507 2 10	1,507 2 10	.....	
	III.—Confiscated, drift and waif wood	.....	35 14 0	35 14 0	35 14 0	.....	
	Total...	.....	2,49,328 1 5	2,49,328 1 5	2,49,210 10 9	117 6 8	
Naushahro	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	1,650 3 3	1,650 3 3	1,650 3 3	.....	
	(b) Firewood and charcoal	12 0 0	86,331 6 8	86,343 6 8	86,343 6 8	.....	The outstandings under V. C. at the end of the year amount to Rs. 66-2-10.
	(e) Grass and other minor produce	.....	61 0 9	61 0 9	61 0 9	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	977 3 9	977 3 9	977 3 9	.....	
	(b) Firewood and charcoal	.....	4,558 11 1	4,558 11 1	4,558 11 1	.....	
	(d) Grazing and fodder grass	.....	9,255 12 0	9,255 12 0	9,255 12 0	.....	
	(e) Other minor produce	.....	4,093 11 6	4,093 11 6	4,093 11 6	.....	
	III.—Confiscated, drift and waif wood	.....	.....	.....	.....	.....	
	Total...	12 0 0	1,06,928 1 0	1,06,940 1 0	1,06,940 1 0	.....	

Hyderabad.....							
I.—Timber and other produce removed from the forests by Government agency—							
(*a*) Timber	342 3 1	26,498 10 8	26,840 13 9	26,840 13 9	.....		
(*b*) Firewood and charcoal	1,452 5 0	94,313 2 8	95,765 7 8	95,135 7 8	630 0 0		
(*c*) Bamboos	.....	4 11 0	4 11 0	4 11 0	.....		
(*e*) Grass and other minor produce	.....	14 10 0	14 10 0	14 10 0	.....		
II.—Timber and other produce removed from the forests by consumers or purchasers—							
(*a*) Timber	262 2 3	1,921 3 5	2,183 5 8	2,020 6 9	.....		
				*162 14 11			* Written off vide G. R. No. 4291 of 14th June 1889.
(*b*) Firewood and charcoal	1 10 0	4,160 9 9	4,162 3 9	4,162 3 9	.....		
(*d*) Grazing and fodder grass	.....	17,064 9 0	17,064 9 0	17,064 9 0	.....		
(*e*) Other minor produce	.....	12,733 0 7	12,733 0 7	12,733 0 7	.....		
Total...	2,058 4 4	1,56,710 9 1	1,58,768 13 5	1,58,138 13 5	630 0 0		
Jerruck							
I.—Timber and other produce removed from the forests by Government agency—							
(*a*) Timber	141 10 8	16,755 8 11	16,897 3 7	11,914 8 5	4,982 11 2		
(*b*) Firewood and charcoal	6,221 5 10	45,458 10 8	51,680 0 6	46,675 12 4	5,004 4 2		
(*e*) Grass and other minor produce	.....	1 0 0	1 0 0	1 0 0	.....		
II.—Timber and other produce removed from the forests by consumers or purchasers—							
(*a*) Timber	.....	796 13 6	796 13 6	796 13 6	.....		
(*b*) Firewood and charcoal	.....	444 0 5	444 0 5	444 0 5	.....		
(*d*) Grazing and fodder grass	3 4 0	14,853 11 0	14,856 15 0	14,853 11 0	3 4 0		
(*e*) Other minor produce	75 0 0	4,176 9 1	4,251 9 1	4,251 9 1	.....		
Total...	6,441 4 6	82,486 5 7	88,927 10 1	78,937 6 9	9,990 3 4		
Total Sind Circle.							
I.—Timber and other produce removed from the forests by Government agency—							
(*a*) Timber	483 13 9	54,511 5 1	54,995 2 10	50,012 7 8	4,982 11 2		The outstanding under V. C. at the end of the year amount to Rs. 110-13-10.
(*b*) Firewood and charcoal	7,685 10 10	4,18,400 2 7	4,26,085 13 5	4,20,380 13 3	5,702 0 2		
(*c*) Bamboos	.....	4 11 0	4 11 0	4 11 0	.....		
(*e*) Grass and other minor produce	.....	456 13 10	456 13 10	456 13 10	.....		
II.—Timber and other produce removed from the forests by consumers or purchasers—							
(*a*) Timber	262 2 3	7,142 4 2	7,404 6 5	7,241 7 6	.....		
				* 162 14 11			* Written off vide G. R. No. 4291 of 14th June 1889.
(*b*) Firewood and charcoal	1 10 0	35,200 4 0	35,201 14 0	35,155 3 4	46 10 8		
(*d*) Grazing and fodder grass	3 4 0	57,191 2 5	57,194 6 5	57,191 2 5	3 4 0		
(*e*) Other minor produce	75 0 0	22,510 8 0	22,585 8 0	22,585 8 0	.....		
III.—Confiscated, drift and waif wood	.....	35 14 0	35 14 0	35 14 0	.....		
Grand Total...	8,511 8 10	5,95,453 1 1	6,03,964 9 11	5,93,226 15 11	10,737 10 0		

Conservator's Office,
Hyderabad; 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.

Divisions.	Department Debtor.			Department Creditor.			Balance due		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (outstandings.)	To Department (Liabilities.)	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Hyderabad	.....	1,000 0 0	1,000 0 0	1,000 0 0	.....	1,000 0 0	.....	.....	
Jerruck	.....	13,551 0 0	13,551 0 0	7,458 0 0	15,553 0 0	23,011 0 0	9,460 0 0	.....	
Naushahro	.....	.....	.....	.....	.....	.....	.....	.....	
Sukkur	.....	5,033 8 0	5,033 8 0	110 2 0	5,000 0 0	5,110 2 0	76 10 0	.....	
Total Contractors...	.....	19,584 8 0	19,584 8 0	8,568 2 0	20,553 0 0	29,121 2 0	9,536 10 0	.....	
Disbursers.									
Hyderabad	.....	51,568 4 8	51,568 4 8	6,833 9 11	46,650 0 0	53,483 9 11	1,915 5 3	.....	
Jerruck	.....	24,431 6 4	24,431 6 4	206 0 0	24,796 11 10	25,002 11 10	571 5 6	.....	
Naushahro	.....	39,802 11 9	39,802 11 9	.....	44,783 3 5	44,783 3 5	5,451 7 3	470 15 7	
Sukkur	.....	20,713 4 4	20,713 4 4	2,070 0 3	20,361 3 6	22,431 3 9	1,717 15 5	.....	
Total Disbursers...	.....	1,36,515 11 1	1,36,515 11 1	9,109 10 2	1,36,591 2 9	1,45,700 12 11	9,656 1 5	470 15 7	
Grand Total...	.....	1,56,100 3 1	1,56,100 3 1	17,677 12 2	1,57,144 2 9	1,74,821 14 11	19,192 11 5	470 15 7	

No. F. / 14843.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General, Bombay.

ANNUAL FORM No. 62.

Forest Department, Sind Circle.

Financial results of the year 1889-90.

Division.	Timber and other produce removed from the Forests by Government Agency.		Other revenue.		Formation, protection and improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sukkur	2,02,213	1,49,215	60,097	12,701	16,000	2,62,310	1,77,916	
Naushahro	88,066	64,337	31,683	6,559	8,040	1,19,749	78,936	
Hyderabad	1,21,996	75,477	40,448	7,553	9,547	1,62,444	92,577	
Jerruck	58,591	45,468	23,667	6,150	8,411	82,258	60,029	
Total... ...	4,70,866	3,34,497	1,55,895	32,963	41,998	6,26,761	4,09,458	

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

Statement showing the progress of Forest Demarcation and Settlement Works in the Sind Circle for 1889-90.

Class of Forest.	At the commencement of the year. Area under Section 34 in which private rights have not been enquired into, settled and recorded.	Area settled during the year under		Area of reserved Forests alienated under Section 26.	Area of protected Forests disforested under Government orders.	At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.
		Chapter II of the Act.	Chapter IV of the Act.			
	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.
Reserved Forests						
Protected Forests						

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

No. 3385 of 1890.

REVENUE DEPARTMENT.

COMMISSIONER'S OFFICE,
Karachi, 29th September 1890.

Submitted to Government.

2. The area under reserved forests in Sind at the close of the year was 991 square miles, 324 acres, as compared with 963 square miles, 201 acres, in the previous year. The increase of 28 square miles, 123 acres, is due partly to the establishment of new reserves, and partly to the gain which resulted from the action of the river on the forests on its banks. Mr. Hexton expresses the opinion that during the last twenty years the loss caused by the action of the river has far exceeded the gain, but this opinion is not borne out by the figures given in the reports of the Department for previous years.

3. A moment's consideration will show that the theory advanced by the Forest Officers that when the river has been notified as one of the boundaries of a river-side forest, the flowing stream of the river must under all circumstances be the boundary, is impracticable. It would often result in hundreds of acres of occupied land and whole villages being thrown into reserved forests by a sudden change in the course of the stream, and it is evident that the functions usually discharged by a Forest Demarcation Officer cannot safely be delegated to so capricious a river as the Indus. If the principles laid down in the instructions lately issued by the Commissioner, for the decision of claims to alluvial accretions made by the Forest Department are adhered to, and the rules are worked with judgment and discretion, there will be no further cause for complaint on either side.

4. The remark made in paras. 7 and 8 of the report regarding the necessity for the acquisition of new reserves near the river bank should be read in conjunction with the observations contained in para. 31 on the subject of the deterioration of the reserves recently acquired at a distance from the river. From facts which have recently been brought to his notice, the Commissioner has no doubt that a most unfortunate mistake has been made in selecting for permanent reserves, land on which there was, at the time, a good growth of jungle, owing its existence to the flood-water from the Indus, which formerly flowed over the face of the country. But since the exclusion of the floods, these lands have been deprived of their water-supply and when once the original growth has been removed, they become useless for forest purposes, since reproduction is impossible. The Commissioner considers that the Conservator should now be instructed to take measures for the disforestment of the useless reserves, and to select in compensation tracts on which the growth of permanent jungle is possible.

5. Steps will be taken for the preservation of the lands selected in the Thar and Parkar District, alluded to in para. 9 of the report, as soon as the construction of the Hyderabad-Umarkot Railway has been sanctioned.

6. The remarks made by Mr. Hexton in para. 15 regarding the insufficiency of the present establishment have the full concurrence of the Commissioner. One Assistant Conservator was withdrawn from Sind on the recommendation of the Conservator, but a very short experience was sufficient to show that the step was ill-advised, and in January last Colonel McRae asked that his proposal might be reconsidered. But in Government Resolution No. 1717, of the 4th March 1890, Government stated that another officer of the controlling staff could not then be spared for service in the

Sind Circle. The Commissioner trusts, however, that at least one other officer will be deputed to Sind at the earliest opportunity. It is most undesirable that Mr. Tuljaram Nihalchand, an officer who is declared by the Conservator to be unfit for the post, should be allowed to continue to hold charge of a division.

7. The number of Forest offences dealt with by the Magistrates fell from 105 to 98, while the number of convictions increased from 92 to 97. There was a noteworthy decrease in the number of petty offences dealt with departmentally, which in the previous year reached a total of 5,809, as compared with 4,383 in the year under report. The decrease is under the heads of "Illicit grazing" and "Compensation cases," and may be attributed to the circumstance that owing to the high inundation there was good grazing throughout the country, and therefore less temptation to trespass in the reserved forests.

8. It is satisfactory to note that the number of forest fires was only 59 as against 94 in the previous year, and while 7,275 acres were burnt in 1888-89, the area affected in 1889-90 was only 1,703 acres. Almost all the fires occurred, as usual, in the Sukkur Division.

9. The improvement in the sales at the Sukkur depôt is mainly due to the reduction in the rates sanctioned by Government Resolution No. 3490, of the 11th May 1889. From information furnished by the Conservator to the Commissioner, it appeared that, should the competition of foreign timber require it, still further reductions might be made while preserving a fair margin of profit. The reduced rates have therefore been continued.

10. The most noteworthy feature of the working of the Department during the year is the very large increase in the quantity of fuel supplied to the North-Western Railway, under the agreement the terms of which were stated in para. 11 of the Commissioner's review of the report for 1888-89. The amount of fuel taken was 18,16,614 maunds, as against 3,72,476 maunds in the previous year. On the other hand the amount of fuel supplied to other public departments fell from 3,12,348 maunds to 2,01,910 maunds, the decrease being mainly due to less fuel having been taken for ferry steamers, but no explanation has been given in the report of the falling off in the demand under this head.

11. The financial results of the year as compared with those of 1888-89 are shown in the following table :—

		1888-89.	1889-90.	Increase.
Receipts	Rs.	4,15,867	6,26,762	2,10,895
Expenditure.....	„	2,86,111	4,09,459	1,23,348
Net Revenue ...	„	1,29,756	2,17,303	87,547

Thus there has been an increase of Rs. 2,10,895 in the gross, and of Rs. 87,547 in the net revenue. The increase in the receipts is almost entirely due to the increase in the demand for locomotive fuel, which has also caused an increase in the expenditure, on account of the cost of cutting and removing the wood. Establishment charges have been reduced by Rs. 2,191, but the Commissioner agrees with the Conservator that the strength of the controlling establishment is at present dangerously low and that reduction in this direction is false economy. The net revenue is the largest ever derived from the Sind forests.

12. The work of the Department was carried on by Colonel McRae with his usual ability, and the excellent arrangements made to meet the sudden increase in the demand for fuel for the North-Western Railway were creditable to all the officers of the Department.

A. C. TREVOR,
Acting Commissioner in Sind.

No. 1899.

REVENUE DEPARTMENT.

Bombay Castle, 13th March 1891.

Letter from the Conservator of Forests, Sind Circle, No. 846, dated 10th September 1890—Forwarding the Forest Administration Report of the Sind Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner in Sind, No. 3385, dated 29th September 1890—Submitting the above with his remarks.

Letter from the Conservator of Forests, S. C., No. 3100 A., dated 18th October 1890—Submitting the Forest Administration Report of the Southern Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner, S. D., No. 4477, dated 19th November 1890—Submitting the above with his remarks.

Letter from the Conservator of Forests, N. C., No. 3886, dated 31st October 1890—Submitting the Forest Administration Report of the Northern Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner, N. D., No. 5287, dated 19th December 1890.
Letter from the Commissioner, C. D., No. $\frac{R}{5855}$, dated 23rd December 1890.
} Submitting their remarks on the Forest Administration Report of the Northern Circle.

RESOLUTION.—The changes that have occurred in forest area during the year 1889-90 are shown in the following statement:—

Circle.	Area on 1st April 1889.		Added.		Excluded.		Area on 31st March 1890.		Total.
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	
	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.
Northern Circle	7,446 145/640	1,047 123/640	218 284/640	35 417/640	135 279/640	11 93/640	7,529 150/640	1,071 447/640	8,600 597/640
Southern Circle	1,819 11/320	3,411 4/5	19/80	..	7/12,800	49/320	1,819 175/640	3,411 413/640	5,230 588/640
Sind Circle	*963 201/640	1 1/5	40 316/640	117/640	12 193/640	..	991 324/640	1 245/640	992 569/640
Total ..	10,228 23/40	4,460 123/640	259 7/40	35 534/640	147 472/640	11 191/640	10,340 9/640	4,484 93/128	14,824 474/640

* The figure given in the last year's report is 973 $\frac{538}{640}$ square miles.

The changes in the Southern Circle call for no remark. The increase in area in the Northern Circle is mainly due, as explained in the report, to corrections of book entries of areas in Thána, Násik and Sátára. The real increase in area has been 42 $\frac{539}{640}$ square miles in the case of reserved forest, while there has been no real increase in the area of protected forest. In the Sind Circle the area of reserved forest added during the year amounts to about 28 square miles, part of this increase being due to formation of new reserves and part to gain from the action of the river. The area of protected forest remained practically the same.

2. Government concurs with the remark of the Commissioner in Sind that the theory of the Forest officers regarding alluvial accretions is impracticable. The instructions which are said to have been lately issued for the decisions of claims of this nature by the Forest Department should however be submitted to Government, and the Commissioner should also be requested to state whether he can arrange for a revision of the forest survey as suggested by the Conservator to ascertain the actual effects on forest area of the action of the Indus since the former survey was made in 1868. Government also concurs with the Commissioner in thinking that steps should be taken as soon as possible to disforest the useless reserves referred to in paragraph 32 of the Conservator's report and to select new reserves from area available on the river.

3. The progress made in the settlement of land notified under Section 34 of the Forest Act is shown in the following table :—

Circle.	Class of Forests.	At the commencement of the year areas under Section 34 in which private rights have not been enquired into, settled, or recorded.	Areas settled during the year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year areas under Section 34 in which private rights have not been inquired into, settled or recorded.	Remarks.
			Under Chapter II of the Forest Act.	Under Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
Northern Circle.	Reserved.	1,352	403	...	5	...	860*	* 84 square miles of reserved forest in Násik were erroneously entered by the Divisional Forest Officer, Násik, in his last year's report and are therefore omitted this year.
	Protected.	620	53	...	...	...	567	
Southern Circle.	Reserved.	$509\frac{221}{640}$†	...	...	...	...	$509\frac{221}{640}$	†. The area as given in the report of the last year is $530\frac{94\frac{11}{40}}{640}$ square miles.
	Protected.	$2,635\frac{171}{640}$	$56\frac{453}{640}$	$81\frac{320}{640}$	...	$\frac{88}{640}$	$2,496\frac{128}{640}$	
Sind ...	...	...	..	...	...	..	...	
Total ...	Reserved.	$1,861\frac{221}{640}$	403	...	5	...	$1,369\frac{221}{640}$	
	Protected.	$3,255\frac{171}{640}$	$109\frac{453}{640}$	$81\frac{320}{640}$	...	$\frac{88}{640}$	$3,063\frac{128}{640}$	

4. The work of settlement which proceeds *pari passu* with that of selection of lands for notification under Sections 4 and 28 of the Act has shown satisfactory progress in the Northern Circle. The reports for the Váda and Máhim Tálukás of the Thána District said to have been completed by Mr. Owen should be expedited. In the Southern Circle, on the other hand, and especially in Kánara, much still remains to be done. The Conservator's proposal for expediting the work by assigning the selection and settlement to the Divisional Forest Officers and Assistant Collectors, respectively, instead of to a special Demarcation Officer, has already been negatived after full consideration in Government Resolution No. 8151 of the 18th November 1890. Having regard, however, to the heavy arrears of settlement and demarcation work in Kánara and the time that it will take to complete it, if left to a single Demarcation Officer, Government, as already stated, hopes to be able to spare the services of an Assistant Collector shortly to relieve Mr. Wingate of a portion of his present duties.

With reference to Mr. James's remarks on Chapter I, paragraphs 18 to 25, of Mr. Shuttleworth's report, it may be observed that the figures of area for Thána to which he alludes represent only the area notified under Sections 4 and 28 of the Act and do not include the unsettled area notified in 1879 under Section 34.

5. The reduction in the cost per mile of the forest survey in the Southern Circle is satisfactory, while the increased cost in the Northern Circle is said to be due to the inclusion in the accounts of the year under report of certain charges in arrears from the preceding year. From the table appended to paragraph 52 of Mr. Shuttleworth's report it appears that the average cost of the 16″ survey was only Rs. 71, while that of the 8″ and 4″ was respectively Rs. 188 and Rs. 133. Mr. Shuttleworth should be asked to state if the figures showing the cost of the 16″ survey are correct. Government is fully aware of the advantages of the 8″ maps where working plans are required, and has already sanctioned their preparation wherever shown to be necessary.

6. The progress made in the preparation of working plans in Kánara is disappointing and should be specially inquired into by the Conservator. The question of constructing a tramway between Haliyál and Shiroli is under the consideration of Government and will receive early attention.

7. In paragraphs 57 to 70 Mr. Shuttleworth gives an interesting account of the system of working plans arranged for the Thána District. That there has been mismanagement in past years owing to irregular exploitation of particular tracts and inadequate measures for securing reproduction may be safely admitted. But the evidence as to overworking and depletion in the sense that more has been taken from the forests than the annual legitimate yield cannot, in the absence of all record as to the actual volume removed under cover of

privileges for local supply, be accepted as conclusive. Had the depletion in past years been anything like so serious as Mr. Shuttleworth describes it to have been in paragraph 59, the Thána forests would not now be the "mine of wealth" he elsewhere declares them to be, and the revenue derived from them would not now be expanding, as he justly claims it to be, "by leaps and bounds." The satisfactory results now being obtained under systematic working seem to His Excellency the Governor in Council to show not so much that the Thána forests have been overworked in the past, as that they are now for the first time only beginning to be worked up to their full capabilities.

8. Government agrees with Mr. Shuttleworth in thinking that the local circumstances of the Konkan make it necessary that the unit of working area should be comparatively small, and that the annual fellings should be numerous and widely distributed. The importance of decentralizing forest labour is obvious in a tract where the local demand for forest produce for domestic and agricultural purposes is exceptionally large, and where so large a proportion of the population depends mainly for its subsistence on the wages earned by felling, carrying and distributing such produce. Forest blocks as well as compartments must also, as Mr. Shuttleworth observes in paragraph 112, be of small size, so that the open portions of forest available for grazing may be within convenient distance of the different forest villages. The success of the system now under trial for supplying cultivators with loppings for ash manure from the annual coupes also clearly depends as much on the number and situation of the coupes as on the actual quantity of such material made available. Government, as will be seen from paragraph 13 of Government Resolution No. 650 of the 26th January 1891, concurs with Mr. James's remarks on paragraph 147 of Mr. Shuttleworth's report as to the necessity of cutting compartments when due, and expects that the Revenue officers will in future cordially co-operate in inducing the cultivators to utilize the ráb material obtainable from the fellings to the fullest possible extent consistent with the due protection of the coupes. The conservation of the young growth in the coupes is a matter of serious importance, and the measures adopted to secure the object in view should, as suggested by Mr. James, be specially noted in future reports.

9. The alleged insufficiency of the present controlling establishment in Sind is a matter for which the Conservator himself is mainly responsible. Government will, however, in view of the Commissioner's recommendation, take steps as soon as possible to place the services of another Assistant at the Conservator's disposal.

10. The following table shows the number of prosecutions for forest offences in 1889-90 as compared with the preceding year :—

Circle.	1888-89.		1889-90.		Percentage of failures.	
	Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1888-89.	1889-90.
Northern Circle ...	1,031	255	1,441	253	24·7	17·6
Southern Circle ...	129	31	138	37	24·	26·8
Sind Circle	105	42	98	31	40·	31·6
Total ...	1,265	328	1,677	321	25·92	19·14

There has been a satisfactory increase in the percentage of convictions for forest offences to cases tried in some districts, especially Thána and Khándesh in the Northern Circle, indicating greater care in instituting prosecutions. On the other hand, in Sátára in the Northern Circle and in the Southern Division of Kánara and Dhárwár in the Southern Circle the percentage of failures appears unduly high.

11. The large number of cases compounded in the Northern Circle, *viz.*, 6,485 in all, is satisfactory so far as it shows that a spirit of conciliation has actuated Forest officers in dealing with forest offenders. But the operation of

Section 67 of the Forest Act requires to be carefully watched, and any tendency to have recourse to this mode of settlement in doubtful cases where the evidence would be insufficient to secure convictions before Magistrates must be promptly repressed. "Reasonable suspicion" of the commission of a forest offence is essential in every case compounded under Section 67. The following table shows the number of cases compounded under Section 67 of the Forest Act and the amounts paid as compensation in 1888-89 and 1889-90 :—

Circle.	1888-89.		1889-90.	
	Cases.	Amount.	Cases.	Amount.
		Rs.		Rs.
Northern Circle	6,154	11,272	6,485	17,075
Southern Circle	599	2,271	674	2,794
Sind Circle	1,493	4,316	1,315	3,068
Total ...	8,246	17,859	8,474	22,937

The Commissioners should be requested to make a close investigation of the method and proceedings of the Forest officers empowered under Section 67 of the Forest Act, and to report the result to Government. Among other points, they should examine the following :—

1. By what officers is the actual inquiry made and recorded in these cases, and what is the exact nature of the procedure adopted ?

2. Are witnesses and accused brought in person before the officers empowered to adjudicate under Section 67, is the evidence of witnesses taken in presence of the accused, and are statements of witnesses and accused reduced to writing ?

3. By whom are fines awarded actually collected ? Is money ever collected from accused by forest subordinates before orders for their collection have been passed by officers empowered under Section 67 ?

4. What is the nature of the supervision exercised over the proceedings of Forest officers under Section 67 ? To what officers do appeals against their decisions lie ? Are monthly returns of cases disposed of submitted by the empowered officers ? If they are, in what form are they submitted and by whom are they scrutinized ?

In future administration reports the Conservators should report for each district the number of complaints disposed of under Section 67 of the Forest Act as well as the number of cases in which fines have been inflicted, also the number of appeals, if any, against decisions passed under Section 67 and the manner of their disposal. The reports should also show how many fines were inflicted amounting to one rupee, how many to two rupees, how many to three, and so on up to the maximum.

12. The number of cattle impounded in the Northern Circle, though slightly less than in the preceding year, reached the high figure of 197,366 and would seemingly have been much larger but for the comparative scarcity of pounds in North Thána. The number of cattle impounded in Ahmednagar and Poona is specially noticeable and is greatly to be regretted. It is hoped, however, that when the restrictions imposed by the new grazing rules are more fully understood and accepted, and the boundaries of closed areas are better known to those concerned, cases of cattle trespass will show a marked diminution.

13. When the open portions of a forest block are at an inconvenient distance from any village and the closed areas are conveniently near, there will always of course be a temptation to drive cattle into the latter. Wilful trespass of this kind must be prevented by all possible means. If the present pound fines are found not sufficiently high to be deterrent the question of raising them under the provisions of Section 70 of the Forest Act will be considered. But in any case the temptation should be removed as far as

possible by taking measures as early as possible in each season to clear away all grass from the closed coupes either by permitting the cultivators to remove it, under proper supervision, for ráb and fodder, or through the agency of contractors. This measure is also very necessary in connection with fire protection. Government is not able to agree entirely with Mr. Shuttleworth's views as regards cattle trespass as stated in paragraph 95. If the present grazing fees are, as Mr. Shuttleworth contends, "ridiculously low," there can obviously be little or no motive for unauthorized grazing in *open* forest areas. The number of cattle impounded for grazing without passes in open forest is not separately shown in the Administration Report. It is presumed, however, that such cases do occur. In future years full information on this subject should be given.

14. Fire protection in the Southern Circle, notwithstanding the comparatively large expenditure of Rs. 11,358, does not appear to have been very successful, and it is an unsatisfactory feature of the report that the conclusions drawn by the Conservator as to the success of the measures adopted in the different divisions are directly at variance with the returns furnished by the Divisional Officers. In North Kánara, for instance, where the protection is said by Mr. MacGregor to have been extremely good, the percentage of failures to area attempted is, according to the returns, considerably higher than in any other division in the Southern Circle. The inference to be drawn from the remark in paragraph 43 of Mr. MacGregor's report is that the subordinate officers from fear of blame or punishment for failure purposely furnish false returns showing more satisfactory results than are in reality obtained. This is a matter to which the Conservator should give close attention. In the Northern Circle the results of fire conservancy show a slight improvement as compared with the past year. This improvement, however, was accompanied by increased expenditure. As regards Sind the Conservator has given no information as to area attempted to be protected, but it is satisfactory to learn that the number of forest fires and the area burnt were considerably less than in the preceding year.

15. The area open for free grazing in North Thána has not been shown in the statement in paragraph 107 of Mr. Shuttleworth's report. This omission should be supplied. It is clear from the same statement, as Mr. James has pointed out, that the kurans of South Thána of which the grazing sold by auction realized only on the average 3 annas and 8 pies per acre are really not 'valuable' kurans within the meaning of paragraph 1 of Government Resolution No. 7467 of 15th September 1885. Nor, judging from the average per acre realized by the auctions, can the kurans of the other divisions in the circle—excepting perhaps North Thána—be considered sufficiently valuable to justify their being excepted from the rule directing the discontinuance of annual auctions. It is desirable that the question should be settled and Government approve of Mr. James's suggestion that the Collectors and Divisional Forest Officers should in consultation before the next grazing season fix the particular kurans which owing to the exceptional value of their fodder grass should continue to be sold by auction. It is very important also, as Mr. James observes, that the people should have full information as to the areas which are available for fee and free grazing. This object will, it is expected, be fully secured by the orders recently passed in Government Resolution No. 650 of the 26th January last.

16. Natural reproduction both by self-sown seed and coppice shoots appears to have been good in all the circles except in the case of some of the Sind reserves referred to above in paragraph 3, which do not now benefit from the inundation. Speaking generally, natural reproduction may be safely relied on for the preservation of the forests in tracts where the rainfall is sufficient, provided adequate measures are taken for protection from fire and for closure of recently felled compartments. The measures taken for artificial regeneration had, as usual, varying results, but appear to have been satisfactory on the whole.

17. Good progress has been made during the year in the construction of several Provincial roads in the Northern Circle which will greatly facilitate the transport and removal of timber. Much remains to be done before the full yield of the valuable forests of the Southern Circle can be profitably exploited. The opening of a new station at Devrái has, however, given a slight impetus to the

operations for supplying railway fuel. Government note with satisfaction that Mr. MacGregor has taken steps to prevent unfair working in future of the forest for railway fuel by exploiting tracts closer to the line than the average lead for the whole area.

18. Receipts from departmental fellings of timber show a considerable decrease in the Northern Circle owing chiefly to the abolition and restriction of these fellings in Thána in favour of sale of standing timber to contractors. The latter system, both for the supply of timber and firewood, is working very satisfactorily and appears on the whole to be more convenient to the people of the district than departmental distribution, as they get their supplies on credit or by barter instead of having to pay in cash. The wide distribution of the coupes and the increased quantity now thrown on the market ensure a brisk local trade and moderate prices. Care must be taken, however, as observed in paragraph 13 of Government Resolution No. 650 of 26th January 1891, that no compartments which ought to be felled in any year remain unfelled, and departmental operations must still be undertaken in respect of coupes which remain unsold to contractors.

19. The large increase in the quantity of fuel supplied to the North-Western Railway is, as the Commissioner remarks, the chief feature in the working of the Sind Circle during the year. The decrease in the demand by other public departments should, however, have been explained.

20. The number and value of the free grants of wood made in the Southern Circle has not been reported as it should have been. This omission should be supplied. In the other circles the value of wood so given shows a considerable decline as compared with the past year, but no explanation is given of the cause.

21. The receipts, expenditure and net revenue of the three forest circles during 1889-90 as compared with the preceding year are shown in the following statement :—

Circle.	Receipts.		Expenditure.		Net Revenue.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Northern Circle ...	11,60,769	11,85,540	7,27,412	7,05,357	4,33,357	4,80,183
Southern Circle ...	12,73,554	13,25,676	6,75,601	6,50,343	5,97,953	6,75,333
Sind Circle ...	4,15,867	6,26,762	2,86,111	4,09,459	1,29,756	2,17,303
Total ...	28,50,190	31,37,978	16,89,124	17,65,159	11,61,066	13,72,819

22. The financial results of the year are very satisfactory, showing a substantial increase in the net revenue of each circle and a total increase of over 2 lákhs.

23. In paragraph 130 of his report Mr. MacGregor has stated that the pepper and spice gardens of Kánara are being largely extended, and fears that, sooner or later, great pressure will be brought to bear on Government to allot fresh *betta* lands from the 'remnants' of the forests not already given up. Government will be glad to have more definite information as to this alleged extension of garden cultivation, and the Commissioner, S. D., should be requested to make special inquiries on the subject. The spread of such exceptionally high cultivation within due limits as provided for in paragraph 5 of Government Resolution No. 5652 of 13th August 1890 would not be a matter for regret, and considering that upwards of 90 per cent. of the entire area of the Kánara District is now included in forests, there ought to be little difficulty in providing, should it become necessary, for a considerably larger demand for ráb than now exists in connection with these gardens. The extension of garden cultivation simply

means that for every additional acre of garden a few acres less of forests will be worked for high timber than would otherwise be the case. But the material wealth of the district will certainly not suffer by the change.

24. For the generally successful result of the year's administration, great credit is due to the Conservators and those working under them. Mr. Shuttleworth has in particular fully maintained his well-earned reputation for untiring zeal and industry in overcoming difficulties and securing improved efficiency throughout his circle. The same spirit has actuated the Divisional Forest Officers generally, and deserves cordial recognition. Messrs. Gleadow and Millett and other officers equally conspicuous for their loyal devotion to forestry will do well, however, to accept the valuable advice contained in the concluding paragraph of the Commissioner, N. D.'s review in the spirit in which it has been given.

G. W. VIDAL,
Acting Chief Secretary to Government.

To

The Commissioner in Sind, and the Commissioners of Divisions,
The Conservators of Forests, N., S. and Sind Circles,
All Collectors, including the Collectors and Deputy Commissioners in Sind,
The Survey and Settlement Commissioner,
The Director of Land Records and Agriculture,
The Accountant General.
} With copies of the report.

The Editors' Tables.
The Government of India,
The Secretary of State for India.
} By letter.

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